RES LIGUSTICAE

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SYNOPSIS OF THE PSYCHODINAE FROM THE LIGURIAN ALPS AND APENNINES (*)

(DIPTERA PSYCHODIDAE)

Introduction

To day knowledges on the Italian Psychodidae are approding a fairly good level, even though they are still rather scanty for some areas (Sicily, Po Valley). In the last ten years research in the Ligurian Alps and Apennines became particularly frequent. These regions, in fact, are very important for faunistic and biogeographical studies and also close enough to our residence. Research was made easier by the constant help of many colleagues and friends.

The area considered lies between River Magra on the East and Colle di Tenda and Val Roja on the West side; the Monregalese region was also included (Fig. 1).

Seventy-one species (about 58% of the Psychodinae known for Italy) are reported: 15 Psychodini, 15 Telmatoscopini and 41 Pericomini. Six species are new to science (*Psychoda villosa*, *Jungiella troianoi*, *Berdeniella bodoni*, *B. gardinii*, *Szaboiella modenesii*, *Ulomyia montanoi*) and 12 more are new for the Italian fauna.

We have excluded *Psychoda tridentata* Sarà & Salamanna, 1967, because we think the only female known (holotype) is likely to represent a teratological specimen.

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Materials, both in slides and in alcohol, are deposited in authors' collection, except when otherwise indicated. Some specimens of most species recorded have been deposited in the collections of Museo Civico di Storia Naturale « G. Doria » in Genova (Italy).

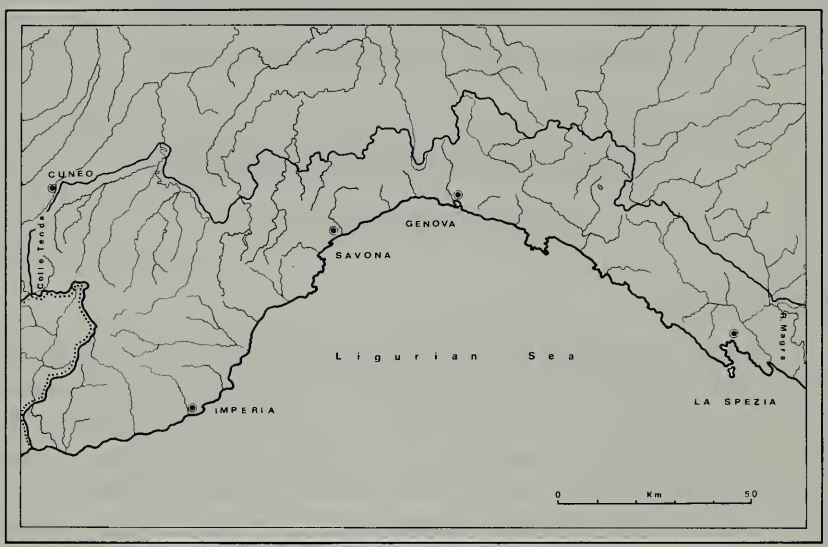

Fig. 1 - The map of the Ligurian Alps and Apennines: the thick line includes the considered area.

Abbreviations

Geographic names

Lig. Alps = Ligurian Alps
Lig. Ap. = Ligurian Apennines
CN = Province of Cuneo (Piedmont)
GE = » » Genova (Liguria)
IM = » » Imperia (Liguria)
PC = » » Piacenza (Emilia)
SP = » » La Spezia (Liguria)
SV = » » Savona (Liguria)

Museums

MSNG = Museo di Storia Naturale di Genova

Collectors

A.D. = Antichi D.
B.A. = Boato A.
B.A. & L. = Briganti A. & L.
B.E. = Balletto E.
B.G. = Bartoli G.
B.L. = Briganti L.
B.M. = Bodon M.
Ca.L. = Cassulo L.
C.F. = Capra F.
C.L. = Capocaccia L.
D.G. = Dellacasa G.
D.G.C. = Doria G.C.
F.M. = Franciscolo M.E.
G.E. = Gaino E.
G.G. = Gardini G.
Ma.G. = Mantero G.
M.G. = Montano G.
M.P. = Modenesi P.
P.G. = Parodi G.
P.R. = Poggi R.
P.S. = Peccenini S.
R.R. = Rizzerio R.
R.S. = Raggio S.
R.V. = Raineri V.
S.G. = Salamanna G.
S.M. = Sarà M.
S.N. = Sanfilippo N.
S.S. = Spanò S.
T.C. = Torti C.
T.G. = Troiano G.
Z.S. = Zoia S.

Tribe Psychodini

1 - **Psychoda albipennis** Zetterstedt

Tonnoir, 1922a, p. 81

Occurrence: holoarctic species, widely distributed and scattered in and outside Europe; quoted already from Lig. Ap. (GE: Rapallo) (Sarà & Salamanna, 1967) and from Lig. Alps (CN: Frabosa) (Sarà & Salamanna, 1968).

2 - **Psychoda alternata** Say

Tonnoir, 1922a, p. 72

Material examined - Lig. Ap. - SP: La Foce: 33 ♂♂ & 41 ♀♀ 31.XI.1977 (B.A. & L.). GE: Chiavari, 300 m: 15 ♂♂ & 5 ♀♀ 5.V.1974 (S.G.); Maxena, Chiavari: 1 ♀ VIII.1978 (T.G.); Rapallo, Torrente Tonnego, 140 m: 1 ♀ 21.IX.1978 (R.S.); Rapallo, Torrente Foggia, 25 m: 1 ♂ & 1 ♀ 6.V.1978, 81 ♂♂ & 1 ♀ 17.IX.1978 (R.S.); Creto, Grotta delle Fate 17Li, 500 m: 3 ♂♂ & 1 ♀ 30.X.1971 (P.R.); Genova, Quarto: 1 ♀ 11.VI.1969 (C.F.); Genova, Prato, 150 m: 2 ♂♂ & 2 ♀♀ 6/17.VI.1976 (S.G.), 6 ♂♂ XI.1977 (T.G.); Genova: 1 ♂ 18.VI.1972, 8 ♀♀ 5.VI.1976, 1 ♀ 25.IV.1977, 1 ♂ 22.V.1977, 5 ♂♂ & 7 ♀♀ 2/5.VII.1977 (S.G.); Serra Riccò, Crocetta d'Orero: 5 ♀♀ 5.IX.1982 (R.V.); S. Lorenzo di Casanova, 300 m: 1 ♂ 21.IX.1971 (P.R.); Arenzano, Punta Goetta: 6 ♂♂ & 2 ♀♀ 8.XI.1977 (P.G.); Arenzano, Val Cantarena: 3 ♀♀ 28.V.1978 (G.G.); N.S. Vittoria: 1 ♀ IX.1933 (Ma.G.) (MSNG). Lig. Alps - IM: Dolceacqua, 150 m: 3 ♂♂ 19.VI.1982 (R.S. & S.G.); Pigna, Carmo Langan, 1000 m: 1 ♂ 26.VII.1983 (M.G. & M.P.). CN: Ormea, River Tanaro, 750 m: 1 ♂ 26.VI.1981 (G.E.); Chiusa Pesio, 570 m: 4 ♂♂ & 2 ♀♀ VIII.1981 (T.G.).

Occurrence: cosmopolitan; quoted already from Lig. Ap. (GE: Torrente Lavagna, Rapallo, Genova Quarto) (Sarà & Salamanna, 1967; Salamanna, 1974) and from Lig. Alps (CN: Frabosa) (Sarà & Salamanna, 1968).

3 - **Psychoda cinerea** Banks

TONNOIR, 1922a, p. 67

Material examined - Lig. Ap. - SP: Campiglia: 1 ♀ 25.V.1977 (D.G.); Carpena, Sprugola del Fondale 403Li: 3 ♂♂ & 1 ♀ 14.XI.1977 (B.A. & L., Z.S.); Quaratica, Caverna di Quaratica 235Li: 1 ♂ 23.III.1982 (Z.S.); Sesta Godano, Travigio, Monte Gottero, 900 m: 1 ♀ 17.VI.1978 (S.G.), 1 ♀ 30.VII/4.VIII.1978 (B.M.); Carro: 1 ♂ 13.II.1978 (S.N.); Varese Ligure, River Vara: 1 ♂ 1979 (B.M.). GE: Castiglione Chiavarese, Tana della Fontana che Bolle 928Li: 2 ♀♀ 11.I.1976 (Z.S., Ca.L. & B.L.), 1 ♂ & 2 ♀♀ 14.II.1976 (Z.S.); Val Graveglia, Nascio, Né, Grotta Bossea 899Li: 1 ♂ 21.III.1976 (B.A. & L., Ca.L., Z.S.); Val Graveglia, Pontori, Grotta inferiore du Niu d'agugia 917Li: 1 ♂ & 3 ♀♀ 13.III.1977 (B.L. & Z.S.); Maxena, Chiavari: 1 ♂ 5.VII.1977, 2 ♀♀ 2.I.1978, 1 ♀ 25.III.1978 (T.G.); Torrente Lavagna, S. Colombano Certenoli: 8 ♂♂ & 2 ♀♀ 17.IV.1977 (S.G.); Rapallo, Rio delle Ciazze, 210 m: 1 ♂ 20.III.1978, 1 ♀ 8.IV.1978, 2 ♀♀ 6.V.1978, 7 ♂♂ 11.VI.1978, 4 ♂♂ & 1 ♀ 1.VII.1978, 1 ♀ 18.II.1979 (R.S.); Rapallo, Rio Remenon, 100/170 m: 1 ♀ 10.IV.1979 (R.S.); Rapallo, Torrente Tonnego, 140 m: 1 ♂ 8.IV.1978 (R.S.); Rapallo, Rio Chignero, 100/175 m: 3 ♂♂ 28.III.1978, 1 ♂ & 2 ♀♀ 17/30.IX.1978, 1 ♀ 11.III.1979 (R.S.); Rapallo, Torrente Foggia, 25 m: 1 ♂ 16.IV.1978, 1 ♀ 10.VI.1978, 1 ♂ & 4 ♀♀ 18.II.1979, 5 ♂♂ 13.V.1979 (R.S.); Rapallo: 24 ♂♂ & 6 ♀♀ 9/16.IV.1978 (R.S.); Rapallo, S. Martino di Noceto: 2 ♂♂ 21.III.1976 (S.G.); Pieve Ligure: 1 ♀ IX.1970 (S. M.);Val Fontanabuona, Torrente Lavagna, Molino di Tassorelle, 300 m: 1 ♂ 19.IX.1976 (S.G.); Monte Fasce, 600 m: 1 ♀ 27.II.1977 (S.G.); Creto, Grotta delle Fate 17Li, 500 m: 1 ♂ 16.V.1971 (P.R.); Genova, Castagna di Quarto, 120/175 m: 1 ♂ & 1 ♀ 15.IV.1971, 1 ♂ & 1 ♀ 11.V.1976, 2 ♂♂ & 5 ♀♀ 10.V.1977 (S.G.); Genova, Quarto: 1 ♂ 16.V.1971, 3 ♂♂ 1/25.III.1975 (C.F.); Genova, Prato, 150/170 m: 1 ♂ 18.IV.1971, 7 ♂♂ & 1 ♀ 29.II.1976 (S.G.), 1 ♀ XI.1977 (T.G.); Genova: 1 ♂ 6.V.1970 (T.G.), 17 ♂♂ & 4 ♀♀ VIII.1971, 5 ♂♂ & 4 ♀♀ 27.VII.1971, 5 ♂♂ & 1 ♀ 20.VII.1980 (P.R.), 1 ♂ & 13 ♀♀ 5.VI.1976, 1 ♂ & 3 ♀♀ 25.IV.1977, 2 ♂♂ & 1 ♀ 22.V.1977, 2 ♂♂ & 8 ♀♀ 2.VII.1977 (S.G.), 1 ♀ VI.1983 (P.R.) (MSNG). Lig. Alps - SV: Millesimo, Tana de l'Orpe 248Li: 1 ♀ 22.III.1952 (F.M.) (MSNG). CN: Ormea, loc. Aimoni, 780 m: 1 ♀ 24.VII.1980 (G.G. & Z.S.); Chiusa Pesio, 570 m: 1 ♀ VIII.1981 (T.G.).

Occurrence: cosmopolitan; quoted already from Lig. Ap. (GE: Rapallo, Genova) (SARÀ & SALAMANNA, 1967; SALAMANNA, 1974) and from Lig. Alps (CN: Lurisia Terme, Frabosa) (SARÀ & SALAMANNA, 1968).

4 - **Psychoda erminea** Eaton

TONNOIR, 1922a, p. 64

Material examined - Lig. Ap. - GE: Lorsica, 350 m: 1 ♀ 17.IV.1977 (S.G.); Rapallo, Rio delle Ciazze, 210 m: 1 ♀ 22.IV.1978 (R.S.); Rapallo, Rio Chignero, 100/175 m: 1 ♀ 28.III.1978, 2 ♀♀ 11/18.VI.1978, 1 ♂ 11.II.1979 (R.S.); Rapallo, Torrente Foggia, 25 m: 1 ♂ 22.III.1978 (R.S.).

Occurrence: widely distributed in the Palearctic Region; quoted already from Lig. Ap. (GE: Rapallo) (SARÀ & SALAMANNA, 1967; SALAMANNA, 1974).

5 - **Psychoda gemina** Eaton

TONNOIR, 1940, p. 48

Material examined - Lig. Ap. - GE: Rapallo: 1 ♀ 24.VIII.1968 (S.M.); S. Desiderio di Bavari, 245 m: 1 ♂ 22.II.1976 (P.R.).

Occurrence: widely distributed in Central and Southern Europe; quoted already from Lig. Ap. (GE: S. Stefano d'Aveto) (SARÀ & SALAMANNA, 1967) and from Lig. Alps (CN: Villanova Mondovì) (SARÀ & SALAMANNA, 1968).

6 - **Psychoda grisescens** Tonnoir

TONNOIR, 1922a, p. 87

Material examined - Lig. Ap. - GE: Torrente Lavagna, S. Colombano Certenoli: 5 ♂♂ & 2 ♀♀ 17.IV.1977 (S.G.).

Occurrence: known from W-Palearctic Region; quoted in Italy from the Dolomites only.

7 - **Psychoda minuta** Banks

QUATE, 1955, p. 203

Material examined - Lig. Ap. - GE: Genova, Castagna di Quarto 175 m: 1 ♂ 15.IV.1971 (S.G.); Genova: 1 ♀ 5.VIII.1976 (G.G.).

Occurrence: holoarctic; in Italy also known from Sicily (in a cave station), Sardinia and Isle of Giglio.

8 - **Psychoda parthenogenetica** Tonnoir

TONNOIR, 1940, p. 53

Material examined - Lig. Ap. - SP: Carro: 3 ♀♀ 13/27.II.1977 (S.N.). GE: Sestri Levante: 1 ♀ 6.III.1977 (S.G.); Torrente Lavagna, S. Colombano Certenoli: 5 ♀♀ 17.IV.1977 (S.G.); Lorsica, 350 m: 1 ♀ 17.IV.1977 (S.G.); Sori, Canepa: 2 ♀♀ 13.IV.1975 (S.G.); Pieve Ligure: 1 ♀ 7.VII.1971 (S.M.); Genova, Quarto: 1 ♀ 25.III.1975 (C.F.); Genova, Prato, 150 m: 2 ♀♀ 18.IV.1971, 3 ♀♀ 17.IV.1976 (S.G.); Genova: 4 ♀♀ 5.VI.1976, 2 ♀♀ 25.IV.1977 (S.G.), 1 ♀ 1.II.1977 (T.G.); Valpolcevera, Murta, Valle Torrente Molinacci: 1 ♀ 24.III.1976 (G.G.). Lig. Alps - SV: Toirano, Tana de Basua 55Li: 1 ♀ 12.XI.1950 (F.M.) (MSNG). IM: Rocchetta Nervina, Fontana Povera, 1250 m: 1 ♀ 9.VI.1978 (B.E.). CN: Chiusa Pesio, 570 m: 22 ♀♀ VIII.1981 (T.G.).

Occurrence: cosmopolitan; quoted already from Lig. Alps (CN: Frabosa) (SARÀ & SALAMANNA, 1968).

9 - **Psychoda pusilla** Tonnoir

TONNOIR, 1922a, p. 83

Occurrence: holoarctic; quoted already from Lig. Ap. (GE: Rapallo) (SARÀ & SALAMANNA, 1967); in Italy also known from Campania, Apulia and Calabria.

10 - **Psychoda quatei** Sarà & Salamanna

Sara' & Salamanna, 1967, p. 52

Material examined - Lig. Ap. - SP: Carro: 2 ♂♂ 27.II.1977 (S.N.); Lorsica, 350 m: 2 ♂♂ 17.IV.1977 (S.G.); Rapallo, Rio delle Ciazze, 210 m: 3 ♀♀ 8/22.IV.1978 (R.S.); Rapallo, Torrente Tonnego, 140 m: 1 ♂ 7.I.1979 (R.S.); Rapallo, Rio Chignero, 100/175 m: 1 ♂ & 4 ♀♀ 20/28.III.1978, 1 ♂ 29.IV.1978, 1 ♂ & 1 ♀ 4.III.1979 (R.S.); Rapallo, Torrente Foggia, 25 m: 1 ♀ 10.VI.1978, 1 ♀ 13.V.1979 (R.S.). Lig. Alps - CN: Garessio, Colle S. Bernardo, 950 m: 1 ♂ 6.VI.1980 (G.G. & R.R.).

Occurrence: known from Liguria and Piedmont only; quoted already from Lig. Ap. (GE: Rapallo, type locality) (Sarà & Salamanna, 1967; Salamanna, 1974).

11 - **Psychoda satchelli** Quate

Quate, 1955, p. 214

Material examined - Lig. Ap. - SP: Campiglia: 1 ♂ 25.V.1977 (D.G.); Carro: 1 ♂ 27.II.1977 (S.N.). GE: Torrente Lavagna, S. Colombano Certenoli: 1 ♂ 17.IV.1977 (S.G.); Rapallo, Rio delle Ciazze, 210 m: 1 ♂ 22.IV.1978 (R.S.); Rapallo, S. Martino di Noceto: 1 ♂ 21.III.1976 (S.G.); S. Desiderio di Bavari, 245 m: 1 ♂ 22.II.1976 (P.R.). Lig. Alps - CN: Chiusa Pesio, 570 m: 2 ♀♀ VIII.1981 (T.G.).

Occurrence: up to now only known from North-America, Yugoslavia and Italy (the Dolomites, Liguria, Tuscany and Apulia); quoted already from Lig. Ap. (GE: S. Stefano d'Aveto, Rapallo) (Sarà & Salamanna, 1967).

12 - **Psychoda setigera** Tonnoir

Tonnoir, 1922a, p. 84

Occurrence: holoarctic; quoted already from Lig. Ap. (GE: S. Stefano d'Aveto) (Sarà & Salamanna, 1967).

13 - **Psychoda severini** Tonnoir

Tonnoir, 1922a, p. 78

Material examined - Lig. Ap. - SP: Carpena, Sprugola del Fondale 403Li: 5 ♀♀ 14.XI.1977 (B.A. & L., Z.S.); Sesta Godano, Travigio, Monte Gottero, 900 m: 4 ♀♀ 30.VII/4.VIII.1978 (B.M.). GE: Maxena, Chiavari: 1 ♀ 25.III.1978 (T.G.); Canale, Fontanigorda, 800 m: 1 ♂ 27.VIII.1977 (Z.S.); Rapallo, Rio delle Ciazze, 210 m: 1 ♂ & 4 ♀♀ 8/22.IV.1978, 2 ♀♀ 6.V.1978, 1 ♂ 11.VI.1978 (R.S.); Rapallo, Torrente Tonnego, 140 m: 1 ♂ 11.VI.1978, 1 ♀ 10.IV.1979 (R.S.); Rapallo, Rio Chignero, 100/175 m: 14 ♀♀ 20/28.III.1978, 1 ♂ & 2 ♀♀ 16/29.IV.1978, 1 ♀ 12.V.1978, 1 ♀ 11.III.1979 (R.S.); Rapallo, Torrente Foggia, 25 m: 1 ♂ & 20 ♀♀ 22.III.1978, 10 ♀♀ 16.IV.1978, 46 ♀♀ 6.V.1978, 6 ♀♀ 17.IV.1979, 7 ♀♀ 13.V.1979 (R.S.); Genova, Castagna di Quarto, 120 m: 1 ♀ 10.V.1977 (S.G.); Genova, Prato, 170 m: 1 ♀ XI.1977 (T.G.); Genova: 1 ♀ 22.V.1977 (S.G.). Lig. Alps - SV: Cisano sul Neva, loc. Martinetto, 100 m: 1 ♂ 24.VII.1980 (G.G. & Z.S.).

Occurrence: holoarctic; quoted already from Lig. Ap. (GE: Rapallo) (SARÀ & SALAMANNA, 1967; SALAMANNA, 1974).

14 - **Psychoda vaillanti** Sarà & Salamanna

SARA' & SALAMANNA, 1967, p. 61

Occurrence: an endemic species from Lig. Ap. (GE: S. Stefano d'Aveto, type locality) (SARÀ & SALAMANNA, 1967).

15 - **Psychoda villosa** sp. n. (Fig. 2)

Type material - Lig. Ap. - GE: Rapallo, Rio Chignero, 100/175 m: 1 ♂ & 1 ♀ 28.III.1978 (R.S.), on leaves of *Hedera helix* near a dung-heap; Rapallo, Torrente Foggia, 25 m: 1 ♀ 6.V.1978 (R.S.), on *Parietaria officinalis*.

1 paratype ♀ (n. 13.14R Liguria) in the MSNG.

♂ (Holotypus: n. 4.20R Liguria; type locality: Rapallo (Genova, Italy), Rio Chignero).

Eye-bridges (Fig. 2,b) of 4 facet rows, separated by about width of 1 facet. Length ratio of the segments of a palpus: 21-20-22-30. Antenna (Fig. 2, c-e) 15-segmented, 0.90 mm long; scape cylindrical and about 1.50 times as long as wide; pedicel globular; segments 3-12 bulbiform; internodes 4-11 times longer than nodes; segments 13-14 with very short internodes; last segment pyriform; flagellar segments 3-13 each with 2 long Y-shaped ascoids. Length ratio of the segments of an antenna: 33-25-36-36-40-42-39-35-35-35-29-17-8-6-10.

Wing (Fig. 2,a) - Length: 1.55 mm; width: 0.60 mm; wing index: 2.60; medial angle: 92°.

Genitalia (Fig. 2,f-h): cercopod slightly curved and swollen at the base, retinaculum curved backwards and about 0.3 times longer than cercopod. Dististyles slightly curved at tip, inner border with 10/11 bristles. Aedeagus very complicated (see Fig. 2,h); subgenital plate (Fig. 2,h) specifically shaped in having its 2 lobes haired.

♀ (Allotypus: n. 4.22R Liguria).

Similar to male. Wing: 1.85 x 0.65 mm; wing index: 2.85; medial angle: 83°. Genitalia as in Fig. 2,i.

This species is named after « *villosa* », the Latin feminine adjectives for haired.

Remarks: the new species is distinguished from all *Psychoda* in having the 2 lobes of the subgenital plate haired.

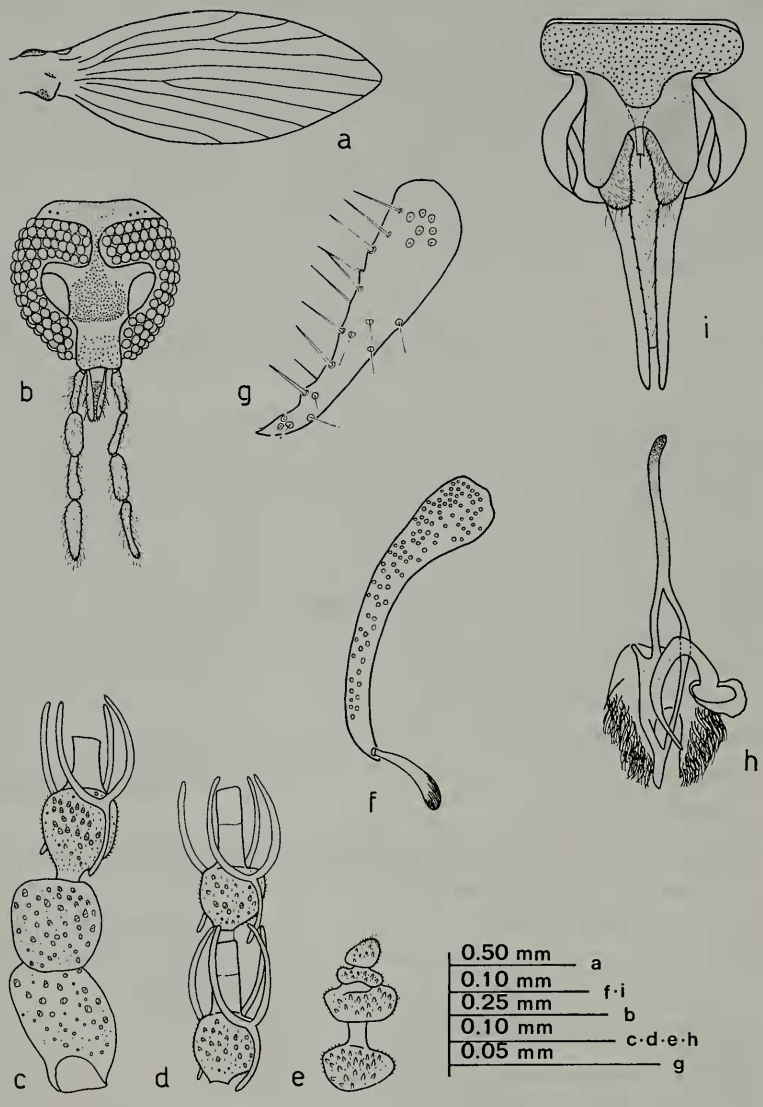

Fig. 2 - *Psychoda villosa* n. sp. - a-h: ♂ (holotypus); i: ♀ (allotypus). a: wing; b: head; c: scape, pedicel and postpedicel; d: antennal segments 7-8; e: last four antennal segments; f: cercopods, side view; g: dististyles, side view; h: aedeagus and subgenital plate; dorsal view; i: female genitalia, ventral view.

Tribe Telmatoscopini

16 - **Clogmia albipunctata** (Williston)

Vaillant, 1972a, p. 52

Material examined - Lig. Ap. - SP: Ponte di Stretta, Riccò del Golfo, 130 m: 1 ♂ 2.X.1982 (B.A. & B.M.). GE: Rapallo, Torrente Boate, 100 m: 1 ♂ 21.VIII.1969 (S.M.); Rapallo: 1 ♀ IX.1939 (D.G.C.) (MSNG); Pieve Ligure: 1 ♂ 14.V.1970 (S.M.); Genova, Quarto: 1 ♀ 5.VI.1970, 1 ♀ IX.1970, 2 ♀♀ 10.VII.1971, 1 ♀ 21.XII.1980 (C.F.); Genova: 1 ♀ IX.1963 (C.L.) (MSNG), 1 ♀ 15.VI.1970 (T.G.), 1 ♀ 29.V.1971 (P.R.), 1 ♀ 5.VI.1976 (S.G.), 1 ♀ 14.VIII.1979 (P.R.) (MSNG); Arenzano, Punta Goetta: 2 ♂♂ & 1 ♀ 8.XI.1977 (P.G.).

Occurrence: cosmopolitan; quoted already from Lig. Ap. (GE: Rapallo, Genova Quarto) (Sarà & Salamanna, 1967; Salamanna, 1974).

17 - **Clogmia rotschildi** (Eaton)

Vaillant, 1972a, p. 53

Material examined - Lig. Ap. - SP: Sesta Godano, Travigio, Monte Gottero, 900 m: 6 ♂♂ 17.VI.1978 (S.G.). GE: Arenzano, Val Cantarena, 100 m: 1 ♀ 16.IV.1978 (G.G.).

Occurrence: previously known from England, Belgium, Germany and Southern France; consequently it is new for the Italian fauna.

18 - **Phyllotelmatoscopus acutus** (Krek)

Vaillant, 1972a, p. 62

Material examined - Lig. Alps - IM: Andagna, Carmo dei Brocchi, 1000 m: 6 ♂♂ & 5 ♀♀ 30.VII.1983 (M.G. & M.P.); Pigna, Carmo Langan, 1000 m: 1 ♂ & 1 ♀ 26.VII.1983 (M.G. & M.P.).

Occurrence: Yugoslavia, Italy (the Dolomites), France (Dauphiné Alpes). In our collection there are also specimens from the Pre-Alps of Como (Lombardy) (unpublished).

19 - **Panimerus (Krekiella) ligusticus** (Sarà & Salamanna)

Sara' & Salamanna, 1967, p. 43

Material examined - Lig. Ap. - GE: S. Stefano d'Aveto, 1000 m: 1 ♀ 6.VII.1977 (P.G.); Val d'Aveto, Rezzoaglio: 1 ♂ 6.VIII.1977 (Z.S.); S. Colombano Certenoli, Fosso di Camposasco: 7 ♂♂ & 2 ♀♀ 17.IV.1977 (S.G.); Rapallo, Rio delle Ciazze, 210 m: 3 ♀♀ 28.X.1978 (R.S.); Rapallo, Torrente Tonnego, 140 m: 4 ♂♂ & 3 ♀♀ 21.X.1978 (R.S.); Rapallo, Rio Chignero, 100/175 m: 9 ♂♂ & 7 ♀♀ 22/30.IX.1978, 1 ♀ 7.X.1978 (R.S.); Rapallo: 1 ♀ 26.X.1978 (R.S.); Creto, 300 m: 1 ♀ 20.V.1977 (Z.S.); Genova, Prato: 1 ♂ IV.1978 (T.G.). Lig. Alps - IM: Pigna, Monte Pietravecchia, 1500 m: 22 ♂♂ & 23 ♀♀ 21.VI.1982 (M.G.). CN: Garessio, Colle S. Bernardo, 950 m: 10 ♂♂ & 2 ♀♀ 6.VI.1980 (G.G. & R.R.).

Occurrence: known from the Dauphiné, the Ligurian Alps and Apennines; quoted already from Lig. Ap. (GE: S. Stefano d'Aveto, type locality) (SARÀ & SALAMANNA, 1967).

Remarks: the study of the material newly collected and in good condition for examination and the excellent drawings and description of the *P. gressicus* in VAILLANT (1972a, p. 75) allow us to propose the synonymy:

P. ligusticus (Sarà & Salamanna, 1967) (= *P. gressicus* Vaillant, 1972) (**Syn. n.**).

20 - **Telmatoscopus wagneri** (Salamanna) (**Comb. n.**)

SALAMANNA, 1982b, p. 186

Material examined - Lig. Ap. - SP: Sesta Godano, Travigio, Monte Gottero, 900 m: 4 ♂♂ & 9 ♀♀ 17.VI.1978 (S.G.), 1 ♀ 30.VI.1978 (B.M.).

Occurrence: up until now known from Gennargentu Mts (Sardinia) only.

21 - **Jungiella (Jungiella) calcicola** Vaillant

VAILLANT, 1972b, p. 88

Material examined - Lig. Alps - SV: Erli, Gazzo, 500 m: 2 ♀♀ 24.VII.1980 (S.G.). IM: Dolcedo, Bellissimi, 250/300 m: 1 ♂ & 1 ♀ 14.VI.1981 (S.G.). CN: Garessio, 700 m: 1 ♀ 16.VI.1975 (G.G.); Chiusa Pesio, 650 m: 2 ♀♀ 10.IX.1977 (T.G.).

Occurrence: previously known from Drôme (France) only, consequently this species is new for the Italian fauna.

22 - **Jungiella (Jungiella) troianoi** sp. n. (Fig. 3)

Type material - Lig. Ap. - GE: Maxena, Chiavari: 1 ♂ 4.VI.1978 (T.G.); Genova, Castagna di Quarto, 120 m: 1 ♂ 10.V.1977 (S.G.).

The paratype ♂ (n. 735 Liguria) in the MSNG.

♂ (Holotypus: n. 934 Liguria; type locality: Chiavari (Genova, Italy), Maxena).

Eye-bridges (Fig. 3,b) of 4 facet rows, separated by about width of 2 facets; interocular suture V-shaped (Fig. 3,c). Length ratio of the segments of a palpus: 25-32-37-43. Antenna (Fig. 3, e-f): broken, only with segments 1-10; scape cylindrical, about 2.25 times longer than wide (2.30 in the paratype); pedicel globular, about 0.45 times the length of scape; the remaining segments, flask-shaped, possess large pyriform nodes and eccentric internodes, each with two simple and spiralled as-

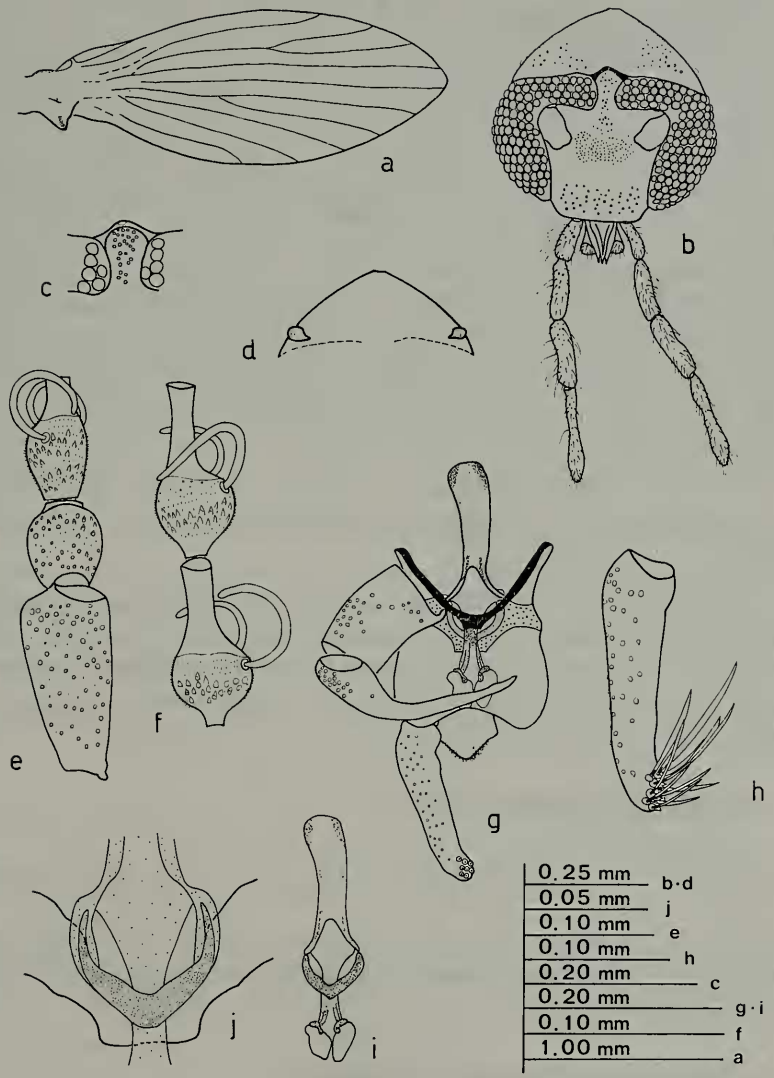

Fig. 3 - *Jungiella troianoi* n. sp.: ♂ (a, e-j: holotypus; b-d: paratypus). a: wing; b: head; c: interocular suture; d: cornicula, ventral view; e: scape, pedicel and post-pedicel; f: antennal segments 7-8; g: male genitalia, dorsal view; h: cercopod, side view; i: aedeagus and furca, dorsal view; j: furca and internal chitinous bridge, dorsal view.

coids. Length ratio of the first ten segments of an antenna: 43-19-29-26-24-23-26-26-26-25- ... Head ventrally (Fig. 3,d) with two short and subspherical cornicula in the hind surface.

Wing (Fig. 3,a) - Length: 2.10 mm (2.25 mm in the paratype); width: 0.75 mm (0.85 mm in the paratype); wing index: 2.80 (2.65 in the paratype); medial angle: 133° (141° in the paratype).

Genitalia (Fig. 3,g-l): cercopod (Fig. 3,h) at tip with 11 pointed retinacula (10 in the paratype). Basistyles cylindrical about 1.50 times longer than wide; dististyles, 1.85 times length of basistyles, with a long beak-like process and bent at 3/7 of its length. Sternal bridge greatly widened medially. Spatula of aedeagus (Fig. 3,i) dorso-ventrally flattened and basally rounded; the two lamellae are divergent and distally linked with to kidney-shaped processes; the V-shaped furca (Fig. 3,i-j) bears connections with the two hind branches of the spatula.

♀: unknown.

We have the pleasure to name this new species after the collector, the cytogeneticist Dr. Giorgio Troiano, from University of Genova (Italy).

Remarks: *J. troianoi* sp. n. is closely related to *J. sybaritana* Salamanna from Piana di Sibari (Calabria, Italy). The two species differ mainly in the number of retinacula (7 in *J. sybaritana*, 10/11 in *J. troianoi*) and in the shape of basistyles, dististyles, spatula of the aedeagus and furca.

23 - **Peripsychoda fusca** (Macquart)

Vaillant, 1972b, p. 96

Material examined - Lig. Alps - CN: Monte Antoroto, 2140 m: 1 ♀ 9.VI.1976 (G.G. & P.S.).

Occurrence: England, Denmark, Nothern Germany, Holland, Belgium, Nothern France, Yugoslavia, the Carpatian Mts and Italy (Marche).

24 - **Philosepedon humeralis** (Meigen)

Vaillant, 1974, p. 110

Material examined - Lig. Ap. - SP: Porto Venere, Le Grazie: 1 ♀ 27.III.1982 (B.M.); Maissana, Grotta Lingua Lunga superiore 894Li: 1 ♀ 21.III.1976 (B.A. & L.). GE: Castiglione Chiavarese, Valle Rio Frascarese, Grotta Prima Ciappa superiore 976Li: 20 ♀♀ 24.X.1976 (Z.S. & Ca.L.), 5 ♀♀ 6.XI.1977 (B.L., G.G. & Z.S.); Val Graveglia, Nascio, Grotta Bossea 899Li: 2 ♀♀ 21.III.1976 (B.A. & L., Ca.L. & Z.S.); Maxena, Chiavari: 7 ♂♂ & 5 ♀♀ 15.IV.1979 (T.G.); S. Colombano

Certenoli, Torrente Lavagna: 1 ♀ 17.IV.1977 (S.G.); S. Colombano Certenoli, Fosso di Camposasco: 1 ♀ 13.III.1978 (S.G.); Rapallo, Rio delle Ciazze, 210 m: 1 ♂ 20.III. 1978, 3 ♂♂ & 1 ♀ 8/22.IV.1978, 1 ♂ 6.V.1978, 1 ♂ 9.IX.1978, 1 ♂ 18.II.1979 (R.S.); Rapallo, Torrente Tonnego, 140 m: 1 ♀ 23.IV.1978, 1 ♂ 11.III.1979, 2 ♂♂ 1/10.IV.1979 (R.S.); Rapallo, Rio Trangonera, 100 m: 1 ♀ 15.VII.1979 (R.S.): Rapallo, Rio Chignero, 100/175 m: 17 ♂♂ & 19 ♀♀ 20/28.III.1978, 2 ♂♂ & 16 ♀♀ 8/29.IV.1978, 5 ♀♀ 12.V.1978, 2 ♂♂ & 4 ♀♀ 10/18.VI.1978, 1 ♂ & 17 ♀♀ 22/30.VII.1978, 1 ♂ 7.X.1978, 1 ♂ 11.XI.1978, 1 ♂ & 3 ♀♀ 10.XII.1978, 6 ♂♂ & 2 ♀♀ 4.II.1979, 21 ♂♂ & 26 ♀♀ 4/18.III. 1979 (R.S.); Rapallo, Torrente Foggia, 25 m: 2 ♂♂ & 1 ♀ 16.IV.1978, 1 ♂ & 1 ♀ 10.VI. 1978, 1 ♂ 17.IX.1978, 1 ♂ 18.II.1979, 6 ♀♀ 17.IV.1979, 4 ♂♂ & 4 ♀♀ 13.V.1979 (R.S.); Rapallo, Grotta Tann-a de Strie 130Li: 1 ♀ 9.X.1971, 2 ♀♀ 16.X.1971 (P.R.), 97 ♀♀ 18.XII.1977, 2 ♀♀ 7.IV.1978 (Z.S.); Neirone, Ognio: 1 ♂ & 1 ♀ 3.V.1979 (T.G.); Bargagli, Viganego, Val Lentro, Grotta superiore della Volpe 265Li: 1 ♀ 19.IV.1978 (Z.S.); Genova, Castagna di Quarto, 120/175 m: 1 ♂ & 17 ♀♀ 15.IV.1971, 6 ♀♀ 24.IV. 1972, 2 ♂♂ & 10 ♀♀ 11.V.1976, 1 ♀ 10.V.1977 (S.G.); Genova, Monte Fasce, Tann-a da Suja 5Li: 2 ♀♀ 12.X.1980 (A.D., B.L. & Z.S.); Genova, Monte Fasce, Rio Pomà, 580 m: 2 ♂♂ & 1 ♀ 21.VI.1981 (B.M.); Genova, Prato, 150 m: 2 ♂♂ 18.IV.1971 (S.G.); Genova: 1 ♂ & 1 ♀ 10.IV.1975 (G.G.), 1 ♂ 22.V.1977, 1 ♂ 23.IV.1978 (S.G.); Isola del Cantone, loc. Giretta: 3 ♂♂ & 3 ♀♀ 19.XI.1981 (B.M.). Lig. Alps - SV: Loano, Grotta di Verzi 91Li, 25 m: 4 ♀♀ 1.XI.1979 (B.M.); Toirano, Tana do Rivo 181Li: 6 ♀♀ 5.XI.1950 (F.M.) (MSNG); Toirano, Tana di Spettari 183Li, 300 m: 1 ♂ 23. VIII.1977 (P.G.). IM: Pontedassio, Frantoio Giumela, 50 m: 1 ♀ 5.XII.1981 (B.M.); Pigna, Colla Langan, 1000 m: 1 ♂ 17.VI.1982 (S.G. & R.S.); Pigna, Caverna della Giacheira 3Li, 600 m: 4 ♀♀ 6.XII.1981 (Z.S.); Rocchetta Nervina, Fontana Povera, 1250 m: 4 ♂♂ & 1 ♀ 9.VI.1978 (B.E.).

Occurrence: England, Denmark, Germany, France, Yugoslavia and Italy (Liguria and Tuscany); quoted already from Lig. Ap. (GE: Rapallo) (SARÀ & SALAMANNA, 1967).

25 - **Feuerborniella obscura** (Tonnoir)

VAILLANT, 1974, p. 121

Material examined - Lig. Ap. - GE: Fontanigorda, Monte Collere, 1000 m: 1 ♀ 17.IX.1980 (Z.S.).

Occurrence: widely distributed in Western Europe; species new for the Italian fauna.

26 - **Trichopsychoda hirtella** (Tonnoir)

VAILLANT, 1974, p. 126

Material examined - Lig. Ap. - SP: Sesta Godano, Travigio, Monte Gottero, 900 m: 1 ♂ & 11 ♀♀ VII.1978 (B.M.). GE: Rapallo: 1 ♂ IX/X.1938 (D.G.C.) (MSNG); Canale, Fontanigorda, 800 m: 1 ♂ 27.VIII.1977 (Z.S.); Pieve Ligure: 1 ♀ 23.VI.1978 (S.M.); Genova: 1 ♂ 5.VII.1977 (S.G.). Lig. Alps - CN: Chiusa Pesio, 570 m: 11 ♀♀ VIII.1981 (T.G.).

Occurrence: England, Belgium, Switzerland, Hungary, Italy (Piedmont).

Genus **Mormia** Enderlein, 1935

KREK (1971, p. 170) in his analytic key of the Bosnian species of *Mormia*, splits this genus into 4 subgenera, namely *Mormia*, *Hemimormia*,

Eomormia and *Paramormia*, without any type-species designation. VAILLANT (1975) addes two more subgenera (*Rhadinomormia* and *Perimormia*) and designates the type-species for all subgenera of *Mormia*. The same author (1982) replaces the name *Paramormia* Krek by *Mormia* Enderlein because the name *Paramormia* cannot be used in that it is a junior homonym of genus *Paramormia* Enderlein, 1937. The type-species of genus *Mormia* Enderlein (*Pericoma revisenda* Eaton), however, was included by KREK in his new subgenus *Eomormia* which, by consequence, becames a junior objective synonym of the nominate subgenus *Mormia* Enderlein.

Furthermore VAILLANT (1982) proposes *Limomormia* as replacement name for *Mormia* sensu Krek, which perfectly conforms to the Rules of Code. The replacement of *Paramormia* Krek with subgenus *Mormia* Enderlein is instead invalid under Art. 69(a) (i) of I.C.Z.N., because the type-species of this genus (*Pericoma revisenda* Eaton) (by original designation) was not originally included in subgenus *Paramormia* Krek.

The current situation of genus *Mormia* is therefore the following:

Genus *Mormia* Enderlein, 1935

Type-species: *Pericoma revisenda* Eaton (by original designation)

Subgenera:

a) *Mormia* Enderlein, 1935 (Nominate subgenus)

Type-species: *Pericoma revisenda* Eaton.

(= *Eomormia* Krek, 1971) (**Syn. n.**)

b) *Hemimormia* Krek, 1971

Type-species: *Telmatoscopus eatoni* Tonnoir (by designation by VAILLANT, 1974: 142).

c) *Perimormia* Vaillant, 1975

Type-species: *Pericoma albitarsis* Tonnoir (by designation by VAILLANT, 1975: 143).

d) *Rhadinomormia* Vaillant, 1975

Type-species: *Telmatoscopus nigrescens* Tokunaga & Komyo (by original designation).

e) *Limomormia* Vaillant, 1982

Replacement name for *Mormia* Krek, 1971, nec *Mormia* Enderlein, 1935.

Type-species: *Telmatoscopus apicealbus* Tonnoir (by original designation).

f) **Palpomormia** n. nov.

Replacement name pro *Paramormia* Krek, 1971, a junior homonym of *Paramormia* Enderlein, 1937.

(= *Mormia*, sensu Vaillant, 1982)

Type-species: *Pericoma palposa* Tonnoir.

27 - **Mormia (Mormia) revisenda** (Eaton)

Vaillant, 1974, p. 142

Material examined - Lig. Ap. - GE: Borzonasca, 350 m: 2 ♂♂ 20.VIII.1969 (S.M.); Rapallo, Rio delle Ciazze, 210 m: 1 ♂ 22.IV.1978, 2 ♂♂ & 3 ♀♀ 6.V.1978, 1 ♂ & 1 ♀ 9.IX.1978 (R.S.); Rapallo, Torrente Tonnego, 140 m: 1 ♂ 21. IX.1978 (R.S.); Rapallo, Rio Chignero, 100/175 m: 1 ♀ 30.IX.1978 (R.S.).

Occurrence: England, Belgium, France, Yugoslavia, Italy (Campania).

28 - **Mormia (Mormia) tenebricosa** Vaillant

Vaillant, 1974, p. 135

Material examined - Lig. Ap. - GE: Rapallo, Rio Remenon, 100/ 170 m: 1 ♂ 10.IV.1979 (R.S.); Rapallo, Rio Chignero, 100/175 m: 2 ♂♂ 28.III.1978, 1 ♂ 30.IX.1978, 1 ♂ 11.XI.1978 (R.S.); Rapallo, Torrente Foggia, 25 m: 1 ♀ 10.VI.1978 (R.S.).

Occurrence: Italy (Liguria), France, Spain, Algeria, Morocco; quoted already from Lig. Ap. (GE: Rapallo) (Sarà & Salamanna, 1967).

29 - **Mormia (Limomormia) apicealba** (Tonnoir)

Tonnoir, 1922b, p. 179; Salamanna, 1983b, p. 180

Material examined - Lig. Ap. - GE: Rapallo, Rio delle Ciazze, 210 m: 1 ♂ 8.IV.1978 (R.S.); Rapallo, Torrente Tonnego, 140 m: 1 ♀ 10.IV.1979 (R.S.); Rapallo, Rio Chignero, 100/175 m: 1 ♂ 28.III.1978 (R.S.); Rapallo, Torrente Foggia, 25 m: 1 ♂ 16.IV.1978, 3 ♀♀ 17.IV.1979 (R.S.).

Occurrence: Hungary, Yugoslavia, Italy (Liguria, Marche and Calabria), France; quoted already from the Lig. Ap. (GE: Rapallo) (Sarà & Salamanna, 1967).

Remarks: this species was recently redescribed by Salamanna (1983b) after examining the holotype in Museo Civico di Storia Naturale in Milano (Italy).

30 - **Mormia (Hemimormia) eatoni** (Tonnoir)

VAILLANT, 1974, p. 142

Material examined - Lig. Ap. - GE: Arenzano, Val Lerone, loc. Case Freghee, 200 m: 2 ♂♂ & 1 ♀ 8.VIII.1977 (G.G.).

Occurrence: England, Belgium, Yugoslavia; new for the Italian fauna. In our collection there are also specimens from the Pre-Alps of Como (Lombardy, Italy) (unpublished).

Tribe PERICOMINI

31 - **Clytocerus ocellaris** (Meigen)

JUNG, 1956, p. 168

Material examined - Lig. Ap. - SP: Sesta Godano, Travigio, Monte Gottero, 900 m: 10 ♂♂ & 5 ♀♀ 3/4.VIII.1978 (B.M.). GE: Maxena, Chiavari: 1 ♀ 5.VII.1977, 29 ♂♂ & 15 ♀♀ 4.VI.1978, 1 ♀ VIII.1978 (T.G.); S. Colombano Certenoli, Torrente Lavagna: 3 ♂♂ 17.IV.1977 (S.G.); S. Colombano Certenoli, Fosso di Camposasco: 4 ♂♂ & 2 ♀♀ 17.IV.1977 (S.G.); Fontanigorda, Canale, 750 m: 15 ♂♂ & 8 ♀♀ 20.VIII.1978 (Z.S.); Rapallo, Rio delle Ciazze, 210 m: 1 ♀ 20.III.1978, 5 ♂♂ & 8 ♀♀ 8.IV.1978, 4 ♂♂ 6/27.V.1978, 35 ♂♂ & 23 ♀♀ 11.VI.1978, 14 ♂♂ & 1 ♀ 1.VII.1978, 5 ♂♂ & 1 ♀ 9.IX.1978 (R.S.); Rapallo, Torrente Tonnego, 140 m: 10 ♂♂ & 3 ♀♀ 27.V.1978, 11 ♂♂ & 24 ♀♀ 11.VI.1978, 9 ♂♂ & 4 ♀♀ 8.VII.1978, 30 ♂♂ & 12 ♀♀ 2.IX.1978 (R.S.); Rapallo, Rio Chignero, 100/175 m: 48 ♂♂ & 19 ♀♀ 20/28.III.1978, 1 ♂ & 1 ♀ 6/29.IV.1978, 2 ♂♂ 12.V.1978, 79 ♂♂ & 64 ♀♀ 2/24.VI.1978, 18 ♂♂ & 6 ♀♀ 15/17.VII.1978, 1 ♂ 30.IX.1978 (R.S.); Rapallo, Torrente Foggia, 25 m: 90 ♂♂ & 55 ♀♀ 10.VI.1978, 1 ♂ 17.IV.1979 (R.S.); Rapallo, Torrente Boate, 100 m: 6 ♂♂ & 3 ♀♀ 21/24.VIII.1969 (S.M.); Val Fontanabuona, Torrente Lavagna, Molino di Tassorelle, 300 m: 2 ♂♂ 1.V.1970, 1 ♀ 23.VI.1970, 1 ♂ & 1 ♀ 3.VII.1970 (T.G.); Montoggio, Creto, 300 m: 2 ♀♀ 20.V.1977 (Z.S.); Montoggio, Lago di Val Noci: 1 ♂ 9.V.1977 (Z.S.); Genova, Castagna di Quarto, 120/175 m: 1 ♂ & 3 ♀♀ 11.V.1976, 4 ♂♂ & 3 ♀♀ 10.V.1977 (S.G.), 2 ♂♂ 5.V.1978 (T.G.); Genova, Rio Castagna, 120 m: 1 ♂ 30.IV.1970 (T.G.); Genova, Prato, 150 m: 4 ♂♂ & 1 ♀ 6/17.VI.1976 (S.G.), 1 ♂ 21.IX.1977 (T.G.); Giovi, Passo della Bocchetta, 800 m: 1 ♂ 27.IV.1975 (B.G. & B.L.); Arenzano, Val Lerone, loc. Case Freghee, 200 m: 10 ♂♂ & 11 ♀♀ 8.VIII.1977 (G.G.); Arenzano: 1 ♂ 14.VII.1977 (P.G.), 1 ♀ 26.III.1978 (G.G.); Arenzano, Val Cantarena: 1 ♀ 28.V.1978 (G.G.). Lig. Alps - CN: Garessio, Colle S. Bernardo, 950 m: 6 ♂♂ 6.VI.1980 (G.G. & R.R.).

Occurrence: present all over Europe; quoted already from Lig. Alps (CN: Villanova Mondovì, Serro) (SARÀ & SALAMANNA, 1968).

32 - **Clytocerus saccai** Sarà

SARA', 1953, p. 2

Material examined - Lig. Ap. - GE: Genova: Castagna di Quarto, 120 m: 2 ♂♂ 10.V.1977 (S.G.), 1 ♂ 5.V.1978 (T.G.); Genova, Rio Castagna, 100 m: 3 ♂♂ 23.IV.1970 (T.G.); Arenzano, Punta Goetta: 1 ♂ 8.XI.1977 (P.G.); Arenzano, Val Cantarena: 1 ♂ & 1 ♀ 24.VIII.1977 (G.G.).

Occurrence: known only from Italy and France (Provence);

quoted already from Lig. Ap. (GE: Torrente Lavagna, Rapallo) (SARÀ & SALAMANNA, 1967; SALAMANNA, 1974).

Remarks: *C. saccai* is a species of the plains, where it replaces *C. ocellaris* which normally prefers the hills and middle-sized mountains; the only biotopes, where the two species are known to occur together, are in the neighbourhoods of Telti (Sassari, Sardinia) (SALAMANNA, 1983a) and by Genova (Castagna di Quarto).

33 - **Tonnoiriella pulchra** (Eaton)

JUNG, 1956, p. 150

Material examined - Lig. Ap. - GE: Rezzoaglio, Agoraie, 1300 m: 1 ♀ 22.VII.1980 (S.G. & R.S.); Lorsica, 350 m: 1 ♀ 17.IV.1977 (S.G.); Rapallo, Rio delle Ciazze, 210 m: 10 ♂♂ & 3 ♀♀ 6.V.1978, 8 ♂♂ 11.VI.1978, 10 ♂♂ & 7 ♀♀ 1.VII.1978, 13 ♂♂ & 7 ♀♀ 18.II.1979, 2 ♂♂ 11.III.1979 (R.S.); Rapallo, Torrente Tonnego, 140 m: 2 ♂♂ & 1 ♀ 10.IV.1979 (R.S.); Rapallo, Rio Chignero, 100/175 m: 3 ♂♂ 28.III.1978, 1 ♂ 6.IV.1978, 2 ♂♂ 12.V.1978, 2 ♂♂ 10.VI.1978, 1 ♂ 22.IX.1978, 1 ♂ 18.III.1979 (R.S.); Rapallo, Torrente Foggia, 25 m: 1 ♂ 17.IV.1979 (R.S.); Rapallo, Torrente Boate, 100 m: 1 ♂ & 1 ♀ 21/24.VIII.1969 (S.M.); Genova, Castagna di Quarto, 120/175 m: 2 ♂♂ 15.IV.1971, 2 ♂♂ & 4 ♀♀ 24.IV.1972, 1 ♂ 11.V.1976, 2 ♂♂ & 1 ♀ 10.V.1977 (S.G.), 2 ♂♂ & 1 ♀ 5.V.1978 (T.G.); Genova, Rio Castagna, 100 m: 1 ♀ 23.IV.1970 (T.G.); Genova, Prato, 170 m: 1 ♂ 7.II.1978 (T.G.); Giovi, Passo della Bocchetta, 800 m: 1 ♀ 27.IV.1975 (B.G. & B.L.); Arenzano: 1 ♂ 14.VII.1977 (P.G.). Lig. Alps - IM: Andagna, Carmo dei Brocchi, 1000 m: 1 ♂ & 1 ♀ 30.VII.1983 (M.G. & M.P.).

Occurrence: widely distributed in Central and Southern Europe and North Africa.

34 - **Pericoma (Pericoma) alticola** Vaillant

VAILLANT, 1978, p. 230

Material examined - Lig. Alps - CN: Roccaforte Mondovì, Torrente Ellero, Cima Cars, 1400 m: 1 ♂ 18.VII.1981 (R.S.).

Occurrence: the Dolomites, Switzerland and the French Alps.

Remarks: faunistic and systematic notes are in SALAMANNA & SARÀ, 1980.

35 - **Pericoma (Pericoma) calcilega** Feuerborn

VAILLANT, 1978, p. 220

Material examined - Lig. Alps - IM: Rezzo, Torrente Rezzo, 770 m: 2 ♂♂ 30.VII.1983 (M.G. & M.P.); Dolcedo, Bellissimi, 250/300 m: 4 ♂♂ & 10 ♀♀ 14.VI.1981 (S.G.).

Occurrence: England, Germany, Hungary, France and Greece; this species in new for the Italian fauna.

36 - **Pericoma (Pericoma) exquisita** Eaton

VAILLANT, 1978, p. 231

Material examined - Lig. Ap. - GE: Rapallo, Rio Chignero, 100/175 m: 5 ♂♂ 26.VIII.1978, 2 ♂♂ & 3 ♀♀ 17.IX.1978 (R.S.); Rapallo, Torrente Foggia, 25 m: 2 ♂♂ 10.VI.1978, 47 ♂♂ & 2 ♀♀ 17.IX.1978 (R.S.); Genova, Prato, 150 m: 1 ♂ & 1 ♀ 6.VI.1976 (S.G.). Lig. Alps - IM: Dolceacqua, 150 m: 82 ♂♂ & 2 ♀♀ 19.VI.1982 (R.S. & S.G.).

Occurrence: Algeria, Spain, England, Belgium, Germany, Poland, Hungary, Yugoslavia, Crete and Evvoia Islands, Italy (Calabria).

37 - **Pericoma (Pericoma) modesta** Tonnoir

VAILLANT, 1978, p. 226

Material examined - Lig. Ap. - GE: Genova: 1 ♂ & 6 ♀♀ 25.VI. 1977, 12 ♂♂ & 7 ♀♀ 2.VII.1977 (S.G.); Arenzano: 1 ♂ 18.XI.1977 (G.G.); Arenzano, Val Cantarena, 100 m: 1 ♂ & 3 ♀♀ 16.IV.1978, 1 ♂ 28.V.1978 (G.G.).

Occurrence: Algeria, Spain (except the Pyrenees), France, Italy (Liguria) and Aegean Islands; quoted already from Lig. Ap. (GE: Pieve Ligure, Genova) (SALAMANNA, 1974).

38 - **Pericoma (Pericoma) pseudoexquisita** Tonnoir

VAILLANT, 1978, p. 223

Material examined - Lig. Ap. - SP: Corniglia: 1 ♂ & 1 ♀ 5.II.1978 (B.L. & Z.S.); Pignone: 3 ♂♂ & 1 ♀ 8.VII.1978 (B.M.). GE: Sestri Levante: 7 ♂♂ & 9 ♀♀ 6.III.1977 (S.G.); Maxena, Chiavari: 3 ♂♂ & 1 ♀ 2.I.1978, 12 ♂♂ 25.III.1978 (T.G.); S. Colombano Certenoli, Torrente Lavagna: 5 ♂♂ 17.IV.1977 (S.G.); Lorsica, 350 m: 2 ♂♂ 17.IV.1977 (S.G.); Rapallo, Rio delle Ciazze, 210 m: 3 ♂♂ & 1 ♀ 11.VI. 1978, 3 ♂♂ 1.VII.1978, 4 ♂♂ & 2 ♀♀ 9.IX.1978 (R.S.); Rapallo, Torrente Tonnego, 140 m: 7 ♂♂ & 1 ♀ 11.VI.1978, 4 ♂♂ 8.VII.1978, 29 ♂♂ & 1 ♀ 2.IX.1978, 1 ♂ & 3 ♀♀ 21.X.1978; 1 ♂ & 1 ♀ 11.III.1979, 6 ♂♂ & 1 ♀ 1/10.IV.1979 (R.S.); Rapallo, Rio Remenon, 100/170 m: 2 ♂♂ 10.IV.1979 (R.S.); Rapallo, Rio Chignero, 100/175 m: 16 ♂♂ & 1 ♀ 20/28.III.1978, 4 ♂♂ 16.IV.1978, 63 ♂♂ & 12 ♀♀ 2/24.VI.1978, 6 ♂♂ & 1 ♀ 26. VIII.1978, 3 ♂♂ 17/22.IX.1978, 1 ♀ 7.X.1978, 2 ♂♂ 11.XI.1978, 2 ♂♂ & 1 ♀ 18.III.1979 (R.S.); Rapallo, Torrente Foggia, 25 m: 4 ♂♂ 16.IV.1978, 2 ♂♂ & 1 ♀ 10.VI.1978, 2 ♂♂ & 3 ♀♀ 17.IX.1978, 1 ♂ 18.II.1979, 1 ♂ & 1 ♀ 17.IV.1979 (R.S.); Rapallo, Torrente Boate, 100 m: 1 ♂ 24.VIII.1969 (S.M.); Rapallo, S. Martino di Noceto: 1 ♂ & 2 ♀♀ 21.III.1976 (S.G.); Val Fontanabuona, Torrente Lavagna, Molino di Tassorelle, 300 m: 1 ♂ & 1 ♀ 1.V.1970, 1 ♂ 3.VII.1970, 2 ♂♂ & 1 ♀ 25.VIII.1970 (T.G.); Montoggio, 450 m: 3 ♂♂ & 2 ♀♀ 15.VI.1975 (S.G.); Genova, Castagna di Quarto, 120/175 m: 1 ♂ & 1 ♀ 15.IV.1971, 1 ♂ & 1 ♀ 24.IV.1972, 1 ♂ 11.V.1976, 7 ♂♂ & 2 ♀♀ 10. V.1977 (S.G.); Genova, Prato, 150/170 m: 2 ♂♂ & 5 ♀♀ 17.IV.1976 (S.G.), 12 ♂♂ & 1 ♀ 7.II.1978, 5 ♂♂ 24.III.1981 (T.G.); Genova: 3 ♂♂ & 5 ♀♀ 22.V.1977 (S.G.); Molini di Fraconalto, Torrente Lemme, 450 m: 4 ♂♂ & 3 ♀♀ 14.IX.1975 (S.G.); Arenzano: 1 ♂ 28.III.1978 (G.G. & Z.S.); Arenzano, Val Cantarena: 5 ♂♂ 28.V.1978 (G.G.). Lig. Alps - IM: Rezzo, Torrente Rezzo, 770 m: 1 ♂ & 3 ♀♀ 30.VII.1983 (M.G. & M.P.); Pigna, Monte Toraggio, 1700 m: 18 ♂♂ & 5 ♀♀ 27.VII.1983 (M.G. & M.P.); Pigna, Colla Langan, 1000 m: 7 ♂♂ & 2 ♀♀ 17.VI.1982 (R.S. & S.G.); Dolceacqua, 150 m: 4 ♂♂ 19.VI.1982 (R.S. & S.G.); Ventimiglia, Villatella, 450 m: 1 ♂ & 5 ♀♀ 18.VI.1982 (R.S. & M.G.). CN: Chiusa Pesio, 570 m: 1 ♂ 16.VII.1981 (T.G.).

Occurrence: widely distributed all over Europe; quoted already from Lig. Ap. (GE: Torrente Lavagna, Rapallo) (SARÀ & SALAMANNA, 1967, sub *P. blandula*; SALAMANNA, 1974) and from Lig. Alps (CN: Lurisia Terme, Frabosa, Serro) (SARÀ & SALAMANNA, 1968).

39 - **Pericoma (Pericoma) servadeii** Salamanna

SALAMANNA, 1982a, p. 311

Occurrence: only known from Lig. Ap. (GE: Castagna di Quarto, type locality) (SALAMANNA, 1982a).

40 - **Pericoma (Pericoma) trifasciata** (Meigen)

VAILLANT, 1978, p. 215

Material examined - Lig. Ap. - GE: Maxena, Chiavari: 1 ♂ 4.VI. 1978 (T.G.); S. Colombano Certenoli, Fosso di Camposasco: 4 ♂♂ 17.IV.1977 (S.G.); Rapallo, Rio delle Ciazze, 210 m: 14 ♂♂ 8.IV.1978, 17 ♂♂ & 2 ♀♀ 6/27.V.1978, 14 ♂♂ & 8 ♀♀ 11.VI.1978, 3 ♂♂ 1.VII.1978, 13 ♂♂ 9.IX.1978, 2 ♂♂ 28.X.1978 (R.S.); Rapallo, Torrente Tonnego, 140 m: 3 ♂♂ 23.IV.1978, 3 ♂♂ 27.V.1978, 15 ♂♂ & 3 ♀♀ 11.VI.1978, 8 ♂♂ & 2 ♀♀ 8.VII.1978, 2 ♂♂ 2.IX.1978, 1 ♂ 21.X.1978, 7 ♂♂ & 2 ♀♀ 1/10.IV.1979 (R.S.); Rapallo, Rio Remenon, 100/170 m: 8 ♂♂ & 2 ♀♀ 10.IV.1979 (R.S.); Rapallo, Rio Chignero, 100/175 m: 14 ♂♂ 22/28.III.1978, 5 ♂♂ 16/29.IV.1978, 10 ♂♂ 12.V.1978, 33 ♂♂ & 2 ♀♀ 2/24.VI.1978, 6 ♂♂ 15.VII.1978, 6 ♂♂ 26.VIII.1978, 7 ♂♂ & 1 ♀ 17/30.IX.1978, 2 ♂♂ 10.XII.1978, 14 ♂♂ & 2 ♀♀ 4.II.1979, 42 ♂♂ & 5 ♀♀ 4/28.III. 1979 (R.S.); Rapallo, Torrente Foggia, 25 m: 1 ♂ 16.IV.1978, 3 ♂♂ 6.V.1978, 4 ♂♂ & 8 ♀♀ 10.VI.1978, 3 ♂♂ 17.IX.1978, 3 ♂♂ & 1 ♀ 18.II.1979, 1 ♀ 17.IV.1979 (R.S.); Rapallo, Torrente Boate, 100 m: 4 ♂♂ 21.VIII.1969 (S.M.); Val Fontanabuona, Torrente Lavagna, Molino di Tassorelle, 300 m: 1 ♂ 1.V.1970 (T.G.); Genova, Monte Fasce, head waters of Rio Pomà: 1 ♂ 19.IV.1976 (Z.S.); Genova, Castagna di Quarto, 120/125 m: 2 ♂♂ 15.IV.1971, 2 ♂♂ 11.V.1976, 5 ♂♂ 10.V.1977 (S.G.), 2 ♂♂ & 1 ♀ 5.V.1978 (T.G.); Genova, Rio Castagna, 120 m: 1 ♂ 30.IV.1970 (T.G.); Genova, Prato, 150 m: 2 ♂♂ 29.II.1976, 2 ♂♂ 17.VI.1976 (S.G.), 1 ♂ 21.IX.1977, 2 ♂♂ 24.III. 1981, 1 ♂ 10.X.1982 (T.G.). Lig. Alps - IM: Dolceacqua, 150 m: 5 ♂♂ 19.VI. 1982 (S.G. & R.S.); Ventimiglia, Villatella, 450 m: 2 ♂♂ 18.VI.1982 (R.S. & M.G.); Pigna, Carmo Langan, 1000 m: 7 ♂♂ & 4 ♀♀ 26.VII.1983 (M.G. & M.P.).

Occurrence: widely distributed in Europe; quoted already from Lig. Ap. (GE: Rapallo) (SARÀ & SALAMANNA, 1967).

41 - **Pericoma (Pericoma) viperina** Vaillant

VAILLANT, 1978, p. 218

Material examined - Lig. Alps - IM: Andagna, Carmo dei Brocchi, 1000 m: 2 ♂♂ 30.VII.1983 (M.G. & M.P.). CN: Le Salse, Torrente Tanarello, 350 m: 1 ♂ 26.VII.1981 (G.E.).

Occurrence: the W-Alps; new for the Italian fauna.

42 - **Pericoma (Pachypericoma) blandula** Eaton

VAILLANT, 1979, p. 239

Material examined - Lig. Ap. - SP: Pignone: 1 ♂ 8.VII.1979 (B.M.); Borghetto Vara, Cassana, 200 m: 3 ♂♂ 2.X.1980 (Z.S., R.R. & G.G.). GE: S. Colom-

bano Certenoli, Torrente Lavagna: 4 ♂♂ 17.IV.1977 (S.G.); S. Colombano Certenoli, Fosso di Camposasco: 2 ♂♂ & 2 ♀♀ 17.IV.1977 (S.G.); Lorsica, 350 m: 5 ♂♂ & 5 ♀♀ 17.IV.1977 (S.G.); Rapallo, Rio delle Ciazze, 210 m: 1 ♂ & 2 ♀♀ 20.III.1978, 49 ♂♂ & 13 ♀♀ 8/22.IV.1978, 37 ♂♂ & 12 ♀♀ 6/27.V.1978, 15 ♂♂ & 4 ♀♀ 1.VII.1978, 56 ♂♂ & 3 ♀♀ 9.IX.1978, 1 ♀ 28.X.1978 (R.S.); Rapallo, Torrente Tonnego, 140 m: 26 ♂♂ & 10 ♀♀ 8/23.IV.1978, 51 ♂♂ & 27 ♀♀ 6/27.V.1978, 87 ♂♂ & 5 ♀♀ 11.VI.1978, 100 ♂♂ & 7 ♀♀ 8.VII.1978, 80 ♂♂ & 5 ♀♀ 2.IX.1978, 30 ♂♂ & 2 ♀♀ 21.X.1978, 2 ♂♂ 11.III. 1979, 30 ♂♂ & 7 ♀♀ 1/10.IV.1979 (R.S.); Rapallo, Rio Remenon, 100/170 m: 36 ♂♂ & 1 ♀ 10.IV.1979 (R.S.); Rapallo, Rio Trangonera, 100 m: 10 ♂♂ & 5 ♀♀ 10.VI.1979, 63 ♂♂ & 88 ♀♀ 15.VII.1979 (R.S.); Rapallo, Rio Chignero, 100/175 m: 262 ♂♂ & 18 ♀♀ 20/28.III.1978, 199 ♂♂ & 55 ♀♀ 16/29.IV.1978, 137 ♂♂ & 18 ♀♀ 12.V.1978, 394 ♂♂ & 30 ♀♀ 2/24.VI.1978, 32 ♂♂ & 8 ♀♀ 15/17.VII.1978, 114 ♂♂ & 5 ♀♀ 26.VIII.1978, 45 ♂♂ & 8 ♀♀ 17/30.IX.1978, 32 ♂♂ & 17 ♀♀ 7.X.1978, 30 ♂♂ & 2 ♀♀ 11.XI.1978, 1 ♂ 10.XII. 1978, 26 ♂♂ & 4 ♀♀ 11/18.III.1979 (R.S.); Rapallo, Torrente Foggia, 25 m: 1 ♂ & 2 ♀♀ 22.III.1978, 88 ♂♂ & 15 ♀♀ 16.IV.1978, 6 ♂♂ & 2 ♀♀ 6.V.1978, 109 ♂♂ & 8 ♀♀ 10.VI.1978, 7 ♂♂ & 1 ♀ 17.IX.1978, 16 ♂♂ & 2 ♀♀ 17.IV.1979 (R.S.); Rapallo, Torrente Boate, 100 m: 1 ♂ 21.VIII.1969 (S.M.); Val Fontanabuona, Torrente Lavagna, Molino di Tassorelle, 300 m: 8 ♂♂ & 3 ♀♀ 1.V.1970, 1 ♀ 23.VI.1970, 4 ♂♂ & 8 ♀♀ 25.VIII. 1970 (T.G.); Val Fontanabuona, Neirone, Acqua di Ognio, Torrente Lavagna: 1 ♂ & 1 ♀ 31.III.1979 (B.M.); Val Fontanabuona, Lumarzo, Ferriere, Torrente Lavagna, 150 m: 2 ♂♂ 11.VI.1970 (T.G.); Montoggio, 450 m: 2 ♂♂ 15.VI.1975 (S.G.); Genova, Castagna di Quarto, 175 m: 5 ♂♂ 11.VI.1976 (S.G.); Genova, Prato, 150 m: 2 ♂♂ 6.VI.1976, 1 ♂ & 2 ♀♀ 17.VI.1976 (S.G.), 1 ♂ 21.IX.1977 (T.G.); Genova: 2 ♀♀ 5.VII. 1977 (S.G.); Molini di Fraconalto, Torrente Lemme, 450 m: 7 ♂♂ & 4 ♀♀ 14.IX.1975 (S.G.); Arenzano, Val Lerone: 1 ♂ 7.VII.1977 (P.G.). Lig. Alps - SV: Erli, loc. Gazzo, 500 m: 3 ♂♂ & 1 ♀ 24.VII.1980 (S.G.). IM: Rezzo, Torrente Rezzo, 770 m: 6 ♂♂ & 2 ♀♀ 30.VII.1983 (M.G. & M.P.); Dolcedo, Bellissimi, 200/300 m: 6 ♂♂ & 5 ♀♀ 14.VI.1981 (S.G.); Dolceacqua, 150 m: 2 ♂♂ 19.VI.1982 (R.S. & S.G.); Ventimiglia, Villatella, 450 m: 1 ♂ 18.VI.1982 (R.S. & M.G.). CN: Chiusa Pesio, 570 m: 1 ♂ 16.VII.1981, 19 ♂♂ & 10 ♀♀ VIII.1981 (T.G.).

Occurrence: Algeria, Europe; quoted already from Lig. Ap. (GE: Torrente Lavagna, Rapallo) (SARÀ & SALAMANNA, 1967; SALAMANNA, 1974, sub *P. fallax*) and from Lig. Alps (CN: Frabosa, Serro, Villanova Mondovì) (SARÀ & SALAMANNA, 1968, sub *P. fallax*).

43 - **Szaboiella hibernica** (Eaton)

VAILLANT, 1979, p. 245

Material examined - Lig. Ap. - GE: S. Colombano Certenoli, Fosso di Camposasco: 1 ♂ 17.IV.1977 (S.G.); Lorsica, 350 m: 2 ♂♂ 17.IV.1977 (S.G.).

Occurrence: England, Ireland, France, Spain, Italy (Romagna and Piedmont) and Yugoslavia; quoted already from Lig. Alps (CN: Artesina) (SARÀ & SALAMANNA, 1968).

44 - **Szaboiella modenesii** sp. n. (Fig. 4)

Type materiale - Lig. Alps - IM: Andagna, Carmo dei Brocchi, 1000 m: 7 ♂♂ & 12 ♀♀ 30.VII.1983 (M.G. & M.P.), on leaves of *Ostrya carpinifolia*.

1 paratype ♂ (n. 1288 Liguria) and 1 paratype ♀ (n. 1293 Liguria) in the MSNG.

♂ (Holotypus: n. 1289 Liguria; type locality: Andagna (Imperia, Italy), Carmo dei Brocchi).

Eye-bridges (Fig. 4,b) of 4 facet rows, separated by about width of 3.3 facets (3.0/3.3 in the paratypes); interocular suture V-shaped. Length ratio of the segments of a palpus: 21-35-36-54. Antenna (Fig. 4,c-e) 16-segmented, 0.60 mm long (0.55/0.60 mm in the paratypes); scape about 1.15 times longer than wide (1.30/1.45 in the paratypes); pedicel spherical; segments 3-15 fusiform, the last one with an eccentric apiculus as long as the bulb; flagellar segments 4-13 each with two simple ascoids. Length ratio of the segments of an antenna: 27-31-22-17-18-18-17-18-17-16-15-15-14-11-12-20.

Wing (Fig. 4,a) - Length: 2.15 mm (2.10/2.25 mm in the paratypes); width: 0.85 mm (0.80/0.90 mm in the paratypes); wing index: 2.50 (2.45/2.70 in the paratypes); medial angle: 176° (176°/183° in the paratypes).

Genitalia (Fig. 4,f-g): each cercopod at tip with two long spatulate and one short pointed retinacula; in the paratypes cercopods are about 2.15/2.60 times longer than the longest retinaculum; ratio of the two spatulate retinacula about 1.70/1.12; ratio of the longest and the shortest retinacula about 2.25/2.42. Basistyles conical about 1.6 times longer than wide; on the inner side a very long chaeta (sligthly shorter than cercopod) is inserted at about mid-length of the medial margin of basistyles; dististyles, approximately 1.25 times the length of basistyles (1,05/1.15 in the paratypes), gradually tapering in a beak-like process. Sternal bridge regularly curved with two setal insertions; subgenital plate much wider than long and with the two lobes separated by a deep notch V-shaped. Aedeagus with a short and fine spatula as in Fig. 4,g.

♀ (Allotypus: n. 1292 Liguria) (Fig. 4,h)

Similar to male. Eye-bridges separated by about width of 4.30 facets. Wing: 2.25 x 0.90 mm; Wing index: 2.75; medial angle: 161°. Genitalia as in Fig. 4,h.

The new species is named after its first collector, the botanist Dr. Paolo Modenesi, from University of Genova (Italy).

Remarks: there are four other species belonging to genus *Szaboiella* Vaillant: *S. hibernica* (Eaton) (see species n. 43 in this work); S. *binunciolata* (Satchell), from the Canary Islands; *S. foliacea* Vaillant, from Corsica; *S. spinosa* Vaillant, from the Southern French Alps (Gordolasque).

S. modenesii, known only as imago, might be one of the two last species that are only known as larvae: in the absence of the imagoes

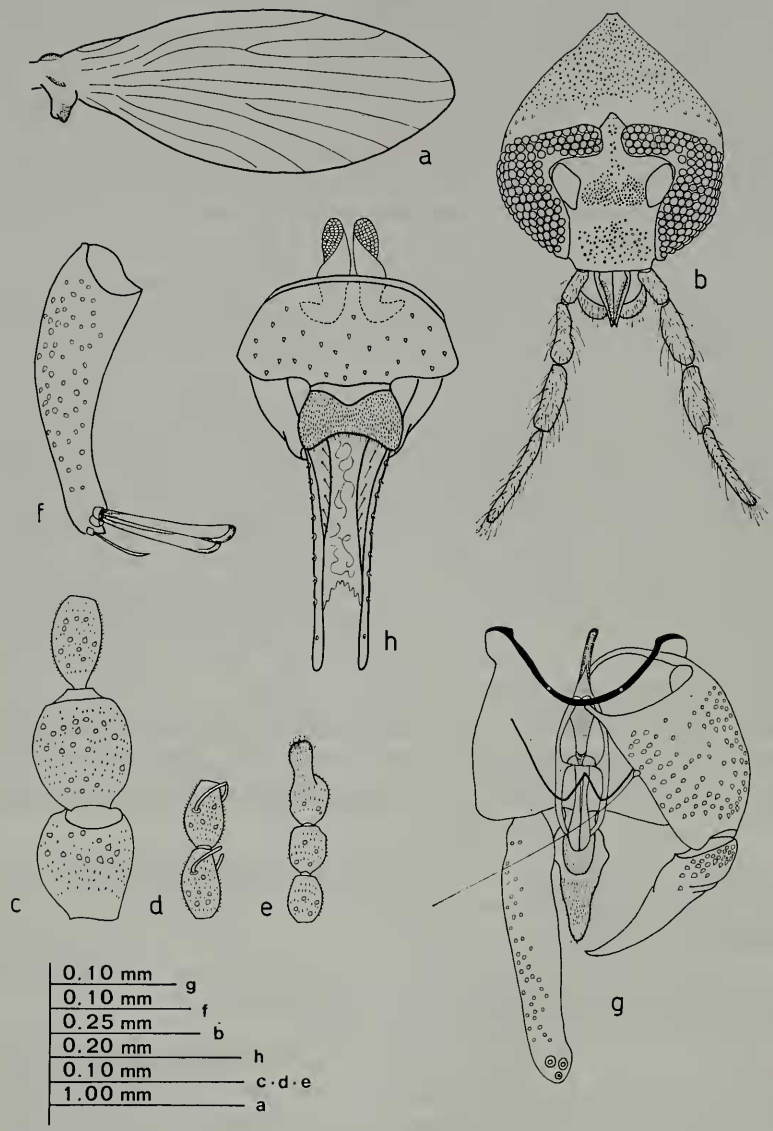

Fig. 4 - *Szaboiella modenesii* n. sp. a-g: ♂ (a,c-e,g: holotypus; b,f: paratypus); h: ♀ (allotypus). a: wing; b: head; c: scape, pedicel and postpedicel; d: antennal segments 7-8; e: last three antennal segments; f: cercopod, side view; g: male genitalia, dorsal view; h: female genitalia, ventral view.

of these two species and of the larva of ours, we described this taxon as new.

The new species is clearly distinguishible from *S. binunciolata* and *S. hibernica* by many genitalic and otherwise morphological features.

45 - **Berdeniella dispar** (Sarà)

Sara', 1958, p. 3

Material examined - Lig. Ap. - SP: Sesta Godano, Monte Gottero, Rio Durla, 750/1000 m: 3 ♂♂ 17.VI.1978 (S.G.), 18 ♂♂ & 14 ♀♀ 30.VI.1978, 1 ♀ 16.VII. 1978, 2 ♂♂ 6.IX.1979 (B.M.), GE: Rezzoaglio, Agoraie, 1300 m: 1 ♂ 22.VII.1980 (S.G. & R.S.); Lorsica, 350 m; 2 ♂♂ 17.IV.1977 (S.G.); Genova: 3 ♂♂ 23.IV.1978 (S.G.). Lig. Alps - IM: slopes of Monte Saccarello, 1500/1650 m: 2 ♂♂ 19.VI. 1982 (R.S. & M.G.). CN: Garessio, 700 m: 1 ♂ 16.VI.1975 (G.G.), 1 ♂ & 1 ♀ 30.V.1976 (B.L. & G.G.).

Occurrence: France, Italy (Calabria, Tuscany and Liguria); quoted already from Lig. Ap. (GE: S. Stefano d'Aveto) (Sarà & Salamanna, 1967).

Remarks: Vaillant (1976) has reported this species from S. France; the descriptions and the drawings of the specimens collected in the Dauphiné Alps differ in many features (mainly subgenital plates) both from the types and from all other Italian populations; we suggest therefore that they may belong to another taxon. Specimens from Corsica, which were also reported to Vaillant (1976) in the same paper, might belong to *B. sardoa* Salamanna, recently described from Sardinia (Salamanna, 1983a). Up to now, however, we were unable to examine individuals of this provenience.

46 - **Berdeniella bodoni** sp. n. (Fig. 5)

Type material - Lig. Ap. - GE: Monte Fasce, head waters of Rio Pomà: 3 ♂♂ & 4 ♀♀ 19.IV.1976 (S.Z.).

1 paratype ♂ (n. 422 Liguria) and 1 paratype ♀ (n. 428 Liguria) in the MSNG.

♂ (Holotypus: n. 424 Liguria; type locality: Genova (Italy), Rio Pomà, Monte Fasce).

Eye-bridges (Fig. 5,b) of 4 facet rows, separated by about width of 3.5 facets (3.5/4.0 in the paratypes); interocular suture U-shaped. Length ratio of the segments of a palpus: 27-31-36-51. Antenna (Fig. 5,c-e) 16-segmented, 0.75 mm long (0.65 mm in a paratype); scape about 1.25 times longer than wide (1.4/1.5 in the paratypes); pedicel ovoid; segments 3-13, fusiform, each with 2 simple ascoids; segments 14-16 globular; last one with an apiculus slightly shorter than the bulb.

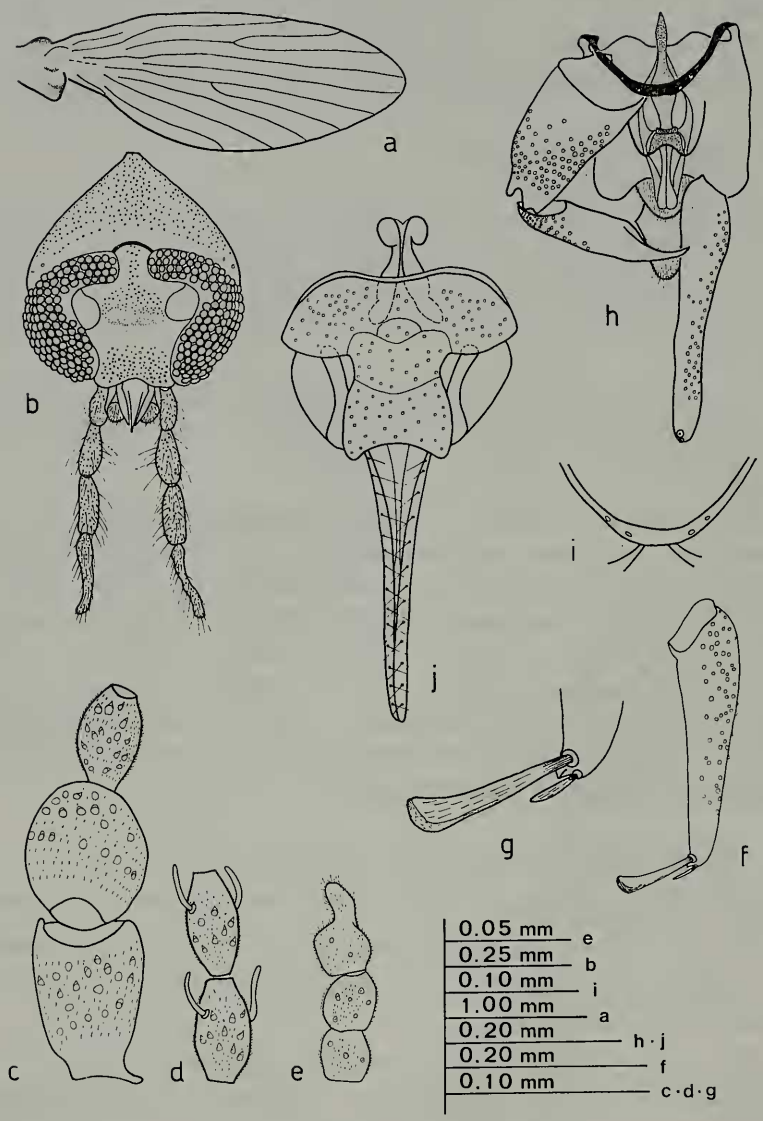

Fig. 5 - *Berdeniella bodoni* n. sp. a-i: ♂ (a-e, h-i: holotypus; f-g: paratypus); j: ♀ (allotypus). a: wing; b: head; c: scape, pedicel and postpedicel; d: antennal segments 6-7; e: last three antennal segments; f: cercopod, side view; g: tip of cercopod, side view; h: male genitalia, dorsal view; i: sternal bridge, dorsal view; j: female genitalia, ventral view.

Length ratio of the segments of an antenna: 35-32-30-25-25-25-24-24-23-20-19-16-15-11-11-17.

Wing (Fig. 5,a) - Length: 2.85 mm (2.45 mm in the paratypes); width: 1.05 mm (0.90 mm in the paratypes); wing index: 2.70 (2.72/2.75 in the paratypes); medial angle: 141° (163°/174° in the paratypes).

Genitalia (Fig. 5,f-i): IX tergite rectangular; each cercopod tiped with two retinacula, the longest being about 2.44/3.13 than the shortes one; basistyles conical, about 2.15 times longer than wide; dististyles similar to those of *B. lucasii* (Satchell); cercopods in the paratypes 3.28/3.77 times longer than the longest retinaculum. Subgenital plate much wider than long; length-width ratio 0.42/0.48. Aedeagus as in Fig. 5,c.

♀ (Allotypus: n. 426 Liguria) (Fig. 5,j)

Similar to male. Eye-bridges separated by about width of 5 facets. Wing: 3.00 x 1.10 mm; wing index: 2.75; medial angle: 144°. Genitalia as in Fig. 5,j.

The new species is named after the malacologist Dr. Marco Bodon, who has collected much material quoted in this study.

Remarks: the new species, belonging to the *lucasii* group, is closely related to *B. zoiai* Salamanna from Sardinia (Italy); the two species differ mainly in the shape of the IX tergite (trapezoidal in *zoiai*).

47 - **Berdeniella brauxica** Vaillant

Vaillant, 1976, p. 193

Material examined - Lig. Alps - CN: Garessio, 700 m: 1 ♂ & 4 ♀♀ 30.V.1976 (B.L. & G.G.); Pamparato, 700 m: 2 ♂♂ & 2 ♀♀ 26.VII.1978 (B.M.); Viozene, Torrente Reggioso, 1300 m: 1 ♀ 26.VII.1978 (B.M.); Chiusa Pesio, 570 m: 2 ♂♂ VIII.1981 (T.G.); Chiusa Pesio, Pian delle Gorre, 1030 m: 6 ♂♂ & 4 ♀♀ 7.VII.1981 (T.G.); Limone, slopes of Monte Crest, 1200 m: 22 ♂♂ VIII.1977 (P.G.).

Occurrence: Italy and France (Provence); quoted already from Lig. Alps (IM: Torrente Oxentina) (Wagner, 1983).

48 - **Berdeniella freyi** (Berdén)

Vaillant, 1976, p. 196

Material examined - Lig. Alps - CN: Roccaforte Mondovì, Torrente Ellero, Cima Cars, 1400 m: 4 ♂♂ 18.VII.1981 (R.S.).

Occurrence: Scandinavia, Lapland, Denmark, North-Spain (the Pyrenees), the Alps, Yugoslavia and Italy (the Dolomites).

49 - **Berdeniella gardinii** sp. n. (Fig. 6)

Type material - Lig. Alps - CN: Roccaforte Mondovì, Torrente Ellero, Ponte Ciappa, 1620 m: 1 ♂ 17.VII.1981 (R.S.), under the leaves of *Petasites* sp.

♂ (Holotypus: n. 244 Liguria; type locality: Roccaforte Mondovì (Cuneo, Italy), Torrente Ellero).

Eye-bridges (Fig. 6,b) of 4 facet rows, separated by about width of 3.5 facets; interocular suture double and U-shaped. Length ratio of the segments of a palpus: 27-31-40-51. Antenna (Fig. 6,c-e) 16-segmented, 0.80 mm long; scape about 1.45 times longer than wide; pedicel ovoid; segments 3-14 fusiform; segment 15 spherical, the last one with an eccentric apiculus as long as the bulb; flagellar segments 4-13 with two simple ascoids. Length ratio of the segments of an antenna: 41-37-35-22-22-26-26-25-25-22-21-18-18-14-9-21.

Wing (Fig. 6,a) - Length: 3.05 mm; width: 1.05 mm; wing index: 2.90; medial angle: 153°.

Genitalia (Fig. 6,f-g) each cercopod tiped with a retinaculum and a spine; retinaculum about 5.50 times longer than the spine and about 0.25 times longer than the cercopod; basistyles cylindrical, about 2 times longer than wide; dististyles, about as long as the basistyles, swollen at the base. Subgenital plate much wider than long, sternal bridge with 4 setal insertions. Aedeagus as in Fig. 6, with fused inner lamellae.

♀ unknown.

This species is named after the chernetologist Dr. Giulio Gardini, who has collected much material quoted in this study.

Remarks: *B. gardinii* sp. n., belonging to the *manicata* group, having only one spine and one retinaculum. It differs from other known species of the group mainly in the shape of dististyles, sternal bridge, subgenital plate and the inner lamellae of aedeagus.

50 - **Berdeniella glacialis** (Vaillant)

Vaillant, 1976, p. 204

Occurrence: the SW-Alps; quoted already from Lig. Alps (CN: Chiusa Pesio, Pian delle Gorre) (Sarà & Salamanna, 1968).

51 - **Berdeniella helvetica** (Sarà)

Vaillant, 1976, p. 195

Material examined - Lig. Alps - CN: Roccaforte Mondovì, Valle Ellero, Torrente Ellero, 1300 m: 40 ♂♂ & 28 ♀♀ 16.VII.1981 (R.S.); Roccaforte Mon-

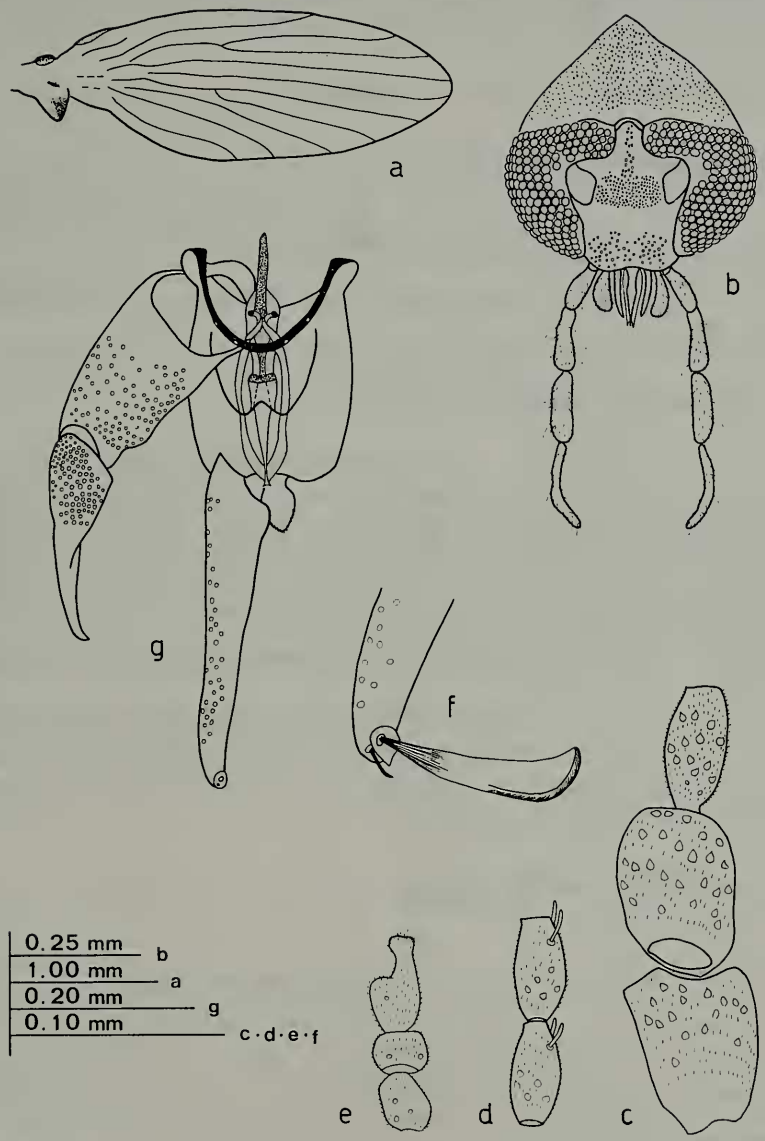

Fig. 6 - *Berdeniella gardinii* n. sp.: ♂ (holotypus). a: wing; b: head; c: scape, pedicel and postpedicel; d: antennal segments 6-7; e: last three antennal segments; f: tip of cercopod, side view; g: male genitalia, dorsal view.

dovì, Torrente Ellero, Pian Marchisio, Sella Ciappa, 1650 m: 1 ♂ & 2 ♀♀ 17.VII.1981 (R.S.); Roccaforte Mondovì, Torrente Ellero, Ponte Ciappa, 1620 m: 4 ♂♂ & 9 ♀♀ 17.VII.1981 (R.S.); Roccaforte Mondovì, Torrente Ellero, Cima Cars, 1400 m: 4 ♂♂ 18.VII.1981 (R.S.); Chiusa Pesio, 570 m: 1 ♂ 16.VII.1981 (T.G.); Limone, slopes of Monte Crest, 1200 m: 12 ♀♀ VIII.1977 (P.G.).

Occurrence: all over the Alps.

52 - **Berdeniella nivalis** Vaillant

VAILLANT, 1976, p. 199

Material examined - Lig. Alps - CN: Roccaforte Mondovì, slopes of Colle Sestrera, 2000 m: 2 ♂♂ & 2 ♀♀ 17.VII.1981 (M.P.).

Occurrence: the Western Alps; this species is new for the Italian fauna.

53 - **Berdeniella unispinosa** (Tonnoir)

VAILLANT, 1976, p. 202

Material examined - Lig. Ap. - GE: S. Stefano d'Aveto, 1000 m: 1 ♂ & 1 ♀ 6.VII.1977 (P.G.); Rezzoaglio, Agoraie, 1300 m: 1 ♂ 22.VI.1978 (S.G.). Lig. Alps - CN: Viozene, Torrente Reggioso, 1300 m: 5 ♂♂ 26.VII.1978 (B.M.); Roccaforte Mondovì, Valle Ellero, Torrente Ellero, 1300 m: 38 ♂♂ & 44 ♀♀ 16.VII. 1981 (R.S.); Roccaforte Mondovì, Torrente Ellero, Pian Marchisio, Sella Ciappa, 1650 m: 4 ♂♂ & 7 ♀♀ 17.VII.1981 (R.S.); Roccaforte Mondovì, Torrente Ellero, Ponte Ciappa, 1620 m: 21 ♂♂ & 20 ♀♀ 17.VII.1981 (R.S.); Roccaforte Mondovì, Torrente Ellero, Cima Cars, 1400 m: 6 ♂♂ & 3 ♀♀ 18.VII.1981 (R.S.); Le Salse, Torrente Tanarello, 1350 m: 1 ♀ 26.VII.1981 (G.E.); Carnino, Upega, 1300 m: 3 ♂♂ & 8 ♀♀ 5.VII. 1982 (M.G.); Limone, slopes of Monte Crest, 1200 m: 2 ♂♂ & 6 ♀♀ VIII.1977 (P.G.).

Occurrence: widely distributed in Europe; quoted already from Lig. Ap. (GE: S. Stefano d'Aveto, Genova Quarto) (SARÀ & SALAMANNA, 1967) and from Lig. Alps (CN: Lurisia Terme, Frabosa, Serro) (SARÀ & SALAMANNA, 1968).

54 - **Berdeniella zwicki** Wagner

WAGNER, 1983, p. 173

Material examined - Lig. Ap. - PC: Val d'Aveto, near Boschi: 1 ♀ 1.IV.1978 (B.M.). SP: Sesta Godano, Rio di Chiusola, 1250 m: 13 ♂♂ & 6 ♀♀ 24.VII.1978 (B.M.); Sesta Godano, Rio di Chiusola, 800 m: 8 ♂♂ 14.V.1978 (B.M.) Sesta Godano, Monte Gottero, Rio Durla, 750/1000 m: 14 ♂♂ & 12 ♀♀ 17.VI.1978 (S.G.), 2 ♂♂ 30.VI.1978, 5 ♂♂ & 2 ♀♀ 3.VIII.1978, 4 ♂♂ & 3 ♀♀ 2.IX.1979, 14 ♂♂ & 4 ♀♀ 6.IX.1979 (B.M.). GE: S. Stefano d'Aveto, 1000 m: 1 ♂ 6.VII.1977 (P.G.); Rezzoaglio, Agoraie, 1300 m: 5 ♂♂ 22.VI.1978 (S.G.), 7 ♂♂ & 7 ♀♀ 22.VII.1980 (S.G. & R.S.); S. Colombano Certenoli, Torrente Lavagna: 1 ♂ 17.IV.1977 (S.G.); Val Fontanabuona, Torrente Lavagna, 300 m: 2 ♂♂ 25.VIII.1970 (T.G.).

Occurrence: the Ligurian Apennines.

Remarks: it has been described recently on one only male from Passo di Cento Croci (SP) (type locality); we found it in many other

localities of the Ligurian Apennines; it seems that this species is vicariant of the related form *B. brauxica* of the Alps.

55 - **Satchelliella compta** (Eaton)

VAILLANT, 1981, p. 278

Material examined - Lig. Ap. - SP: Cassana, 200 m: 59 ♂♂ & 20 ♀♀ 2.X.1980 (Z.S., R.R. & G.G.). GE: Val Fontanabuona between S. Colombano Certenoli and Gattorna, 50/150 m: 5 ♂♂ 3.X.1971 (P.R.).

Occurrence: England, Denmark, Belgium and Italy (Marche).

Remarks: the quotation of *S. compta* from Marche (Italy) is to be confirmed as it was based on one female only.

56 - **Satchelliella cubitospinosa** (Jung)

VAILLANT, 1979, p. 264

Material examined - Lig. Ap. - GE: Molini di Fraconalto, Torrente Lemme, 450 m: 1 ♂ 14.IX.1975 (S.G.). Lig. Alps - IM: Monte Saccarello, slopes, 1500/1650 m: 2 ♂♂ & 1 ♀ 19.VI.1982 (R.S. & M.G.).

Occurrence: Denmark, Germany, Switzerland, France and Italy (the Dolomites, Campania and Calabria).

57 - **Satchelliella jungi** (Vaillant)

VAILLANT, 1981, p. 280

Material examined - Lig. Alps - SV: Mioglia, 350 m: 1 ♂ & 1 ♀ 16.III.1977 (T.C.).

Occurrence: previously known from France (the Lower Alps); this species is new for the Italian fauna.

58 - **Satchelliella mutua** (Eaton)

VAILLANT, 1979, p. 255

Material examined - Lig. Ap. - GE: S. Stefano d'Aveto, 1000 m: 11 ♂♂ & 7 ♀♀ 6.VII.1977 (P.G.); Rezzoaglio, Agoraie, 1300 m: 2 ♂♂ 22.VI.1978 (S.G.); Rossiglione, Torrente Berlino, 400 m: 2 ♂♂ 5.VI.1977 (S.S.). Lig. Alps - CN: Garessio, 700 m: 1 ♀ 16.VI.1975 (G.G.); Garessio, Colle S. Bernardo, 950 m: 41 ♂♂ & 11 ♀♀ 6.VI.1980 (G.G. & R.R.), 37 ♂♂ & 13 ♀♀ 24.VII.1980 (S.G.); Roccaforte Mondovi, Torrente Ellero, Cima Cars, 1400 m: 1 ♂ 18.VII.1981 (R.S.).

Occurrence: Norway, Sweden, Denmark, Belgium, Hungary, Czechoslovakia, Yugoslavia, England, France and Italy (Piedmont, Liguria and the Dolomites); quoted already from Lig. Ap. (GE: S. Ste-

fano d'Aveto) (SARÀ & SALAMANNA, 1967) and from Lig. Alps (CN: Artesina) (SARÀ & SALAMANNA, 1968).

59 - **Satchelliella nubila** (Meigen)

VAILLANT, 1979, p. 270

Material examined - Lig. Ap. - SP: Sesta Godano, Travigio, Monte Gottero, 900 m: 2 ♂♂ & 3 ♀♀ VIII.1978 (B.M.). GE: Canale, Fontanigorda, 750 m: 2 ♂♂ & 1 ♀ 20.VIII.1978 (Z.S.); Rapallo, Rio delle Ciazze, 210 m: 1 ♂ 27.V.1978, 3 ♂♂ & 1 ♀ 9.IX.1978 (R.S.); Rapallo, Torrente Tonnego, 140 m: 1 ♂ 27.V.1978, 2 ♂♂ 11.VI.1978, 1 ♂ & 2 ♀♀ 8.VII.1978, 21 ♂♂ & 5 ♀♀ 2.IX.1979 (R.S.); Rapallo, Rio Trangonera, 100 m: 4 ♂♂ & 3 ♀♀ 10/15.VII.1979 (R.S.); Rapallo, Rio Chignero, 100/175 m: 4 ♂♂ 29.IV.1978, 12 ♂♂ 12.V.1978, 19 ♂♂ & 3 ♀♀ 2/10.VI.1978, 17 ♂♂ & 2 ♀♀ 18/24.VI.1978, 7 ♂♂ & 6 ♀♀ 26.VIII.1978, 44 ♂♂ & 7 ♀♀ 22/30.IX.1978, 1 ♂ & 4 ♀♀ 7.X.1978, 3 ♂♂ & 2 ♀♀ 1.XI.1978, 1 ♂ & 1 ♀ 11/18.III.1979 (R.S.); Rapallo, Torrente Foggia, 25 m: 9 ♂♂ 10.VI.1978, 12 ♂♂ 17.IX.1978, 3 ♂♂ 11.XI.1978 (R.S.); Montoggio, 450 m: 3 ♂♂ & 3 ♀♀ 15.VI.1975 (S.G.); Genova, Prato, 150/170 m: 4 ♂♂ & 2 ♀♀ 6.VI.1976, 20 ♂♂ & 6 ♀♀ 17.VI.1976 (S.G.), 7 ♂♂ & 1 ♀ 7.II.1978, 1 ♀ 3.V.1979, 7 ♂♂ & 2 ♀♀ 24.III.1981 (T.G.); Molini di Fraconalto, Torrente Lemme, 450 m: 1 ♂ 14.IX.1975 (S.G.); Arenzano: 2 ♂♂ 14.VII.1977 (P.G.); Arenzano, Punta Goetta: 2 ♂♂ & 1 ♀ 8.IX.1977 (P.G.). Lig. Alps - IM: Monte Bertrand, 2200 m: 1 ♀ 24.VII.1975 (G.G.); Pigna, Monte Pietravecchia, 1650 m: 4 ♀♀ 17.VI.1982 (B.A.); Dolceacqua, 150 m: 5 ♂♂ 19.VI.1982 (R.S. & S.G.). CN: Chiusa Pesio, 570/650 m: 22 ♂♂ 10.IX.1977, 4 ♂♂ VIII.1981 (T.G.); Limone, Colle del Carbone, 1800 m: 1 ♀ 6.VII.1981 (B.L.).

Occurrence: Europe; quoted already from Lig. Ap. (GE: Lavagna, Rapallo) (SARÀ & SALAMANNA, 1967; SALAMANNA, 1974) and from Lig. Alps (CN: Frabosa, Villanova Mondovì) (SARÀ & SALAMANNA, 1968).

60 - **Satchelliella vaillanti** Wagner

WAGNER, 1981, p. 218

Occurrence: known only from Liguria (not Piedmont, as reported by WAGNER, 1981); quoted already from Lig. Alps (SV: Colle del Melogno, tributary of River Bormida, type locality) (WAGNER, 1981).

61 - **Saraiella auberti** (Sarà)

VAILLANT, 1981, p. 301

Material examined - Lig. Ap. - GE: Genova, Prato, 170 m: 1 ♂ 7.II.1978, 1 ♂ 10.IX.1982 (T.G.).

Occurrence: Germany (Hassia), Switzerland, Italy (the Dolomites, Abruzzi, Campania and Calabria), France (the Vosges, Savoy, the Dauphiné and Southern Alps) and the Pyrenees.

62 - **Saraiella clastrieri** (Vaillant)

VAILLANT, 1981, p. 298

Material examined - Lig. Alps - CN: Roccaforte Mondovì; Torrente Ellero, Pian Marchisio, Sella Ciappa, 1650 m: 1 ♀ 17.VII.1981 (R.S.); Roccaforte Mondovì, Rio Ciappa (slopes of Rocche Biecai), 1700 m: 1 ♂ 17.VII.1981 (R.S.).

Occurrence: France (the Massif Central and the Dauphiné Alps) and Italy (Piedmont and the Dolomites); quoted already from Lig. Alps (CN: Artesina) (SARÀ & SALAMANNA, 1968).

63 - **Saraiella consigliana** (Sarà)

VAILLANT, 1981, p. 295

Material examined - Lig. Ap. - GE: Rapallo, Rio delle Ciazze, 210 m: 35 ♂♂ & 2 ♀♀ 9.IX.1978, 1 ♂ & 2 ♀♀ 28.X.1978 (R.S.); Rapallo, Torrente Tonnego, 140 m: 2 ♂♂ 2.IX.1978, 3 ♂♂ 21.X.1978 (R.S.); Rapallo, Rio Chignero, 100/175 m: 2 ♂♂ & 5 ♀♀ 22.IX.1978, 7 ♂♂ & 4 ♀♀ 30.IX.1978 (R.S.); Rapallo, Torrente Foggia, 25 m: 4 ♂♂ 17.IX.1978 (R.S.).

Occurrence: Italy (Liguria, Abruzzi, Campania and Calabria) and Yugoslavia (Balkan Region).

64 - **Saraiella diaclasica** Vaillant

VAILLANT, 1981, p. 291

Material examined - Lig. Ap. - GE: Rapallo, Rio delle Ciazze, 210 m: 3 ♂♂ 8.IV.1978 (R.S.); Val Fontanabuona, Torrente Lavagna, Molino di Tassorelle, 300 m: 3 ♂♂ & 1 ♀ 25.VIII.1970 (T.G.); Montoggio, 450 m: 1 ♂ 15.VI.1975 (S.G.); Arenzano, Val Lerone: 1 ♂ 7.VII.1977 (P.G.). Lig. Alps - IM: Rezzo, Torrente Rezzo, 770 m: 1 ♂ 30.VII.1983 (M.G. & M.P.); Monte Saccarello, 1500/1650 m: 56 ♂♂ & 4 ♀♀ 19.VI.1982 (R.S. & M.G.); Monte Saccarello, road Melosa-Monesi, 1550 m: 26 ♂♂ & 16 ♀♀ 9.VII.1982 (M.G.); Monte Saccarello, 1500 m: 8 ♂♂ & 2 ♀♀ 18.VII.1982 (P.R.); Verdeggia, Monte Saccarello, 1500 m: 11 ♂♂ & 10 ♀♀ 28.VII.1983 (M.G. & M.P.); Pigna, Monte Pietravecchia, 1550 m: 1 ♂ 27.VII.1983 (M.G. & M.P.).

Occurrence: previously known from France (the Dauphiné Alps); consequently this species is new for the Italian fauna. In our collection there are also many specimens from the Pre-Alps of Como (Lombardy) (unpublished).

65 - **Saraiella onerata** (Vaillant)

VAILLANT, 1981, p. 297

Material examined - Lig. Alps - IM: Pigna, Monte Pietravecchia, Sentiero degli Alpini, 1550/1600 m: 2 ♂♂ & 8 ♀♀ 9.VII.1982, 2 ♂♂ & 1 ♀ 27.VII.1983 (M.G.); Pigna, Monte Toraggio, Sentiero degli Alpini, 1650 m: 2 ♂♂ 4.VIII.1982 (M.G.).

Occurrence: previously known only from the French Alps; consequently it is new for the Italian fauna.

66 - **Saraiella parva** (Vaillant)

VAILLANT, 1981, p. 296

Material examined - Lig. Alps - CN: Monte Mongioie, 2000 m: 1 ♂ 17.VII.1976, 1 ♂ 3.VII.1982 (B.L.).

Occurrence: previously known from the Carpathian Mts and the Dauphiné Alps; new for the Italian fauna.

67 - **Saraiella squamigera** (Tonnoir)

VAILLANT, 1981, p. 294

Material examined - Lig. Alps - IM: Pigna, Monte Toraggio, Sentiero degli Alpini, 1650/1700 m: 1 ♂ & 2 ♀♀ 4.VIII.1982 (M.G.), 7 ♂♂ & 1 ♀ 27.VII.1983 (M.G. & M.P.); Pigna, Monte Pietravecchia, Sentiero degli Alpini, 1600 m: 1 ♂ & 1 ♀ 9.VII.1982 (M.G.).

Occurrence: Austria (Carinthia), Italy (the Dolomites), and France (the Dauphiné Alps).

68 - **Ulomyia mirabilis** (Sarà)

SARÀ, 1952, p. 2

Material examined - Lig. Ap. - SP: Rio di Chiusola, 800/1250 m: 4 ♂♂ & 1 ♀ 24.VII.1978, 8 ♂♂ & 2 ♀♀ 14.VIII.1978 (B.M.); Sesta Godano, Monte Gottero, Rio Durla, 700/900 m: 3 ♂♂ & 2 ♀♀ 20.VIII.1978, 1 ♂ 2.IX.1979 (B.M.); Sesta Godano, Fosso Reccagnago, 400 m: 8 ♂♂ 2.VIII.1978 (B.M.).

Occurrence: only known from the Tuscan-Emilian and Ligurian Apennines; quoted already from Lig. Ap. (GE: S. Stefano d'Aveto) (SARÀ & SALAMANNA, 1967).

69 - **Ulomyia montanoi** sp. n. (Fig. 7)

Type material - Lig. Alps - IM: Pigna, Piani di Marta, 1950 m: 1 ♀ 20.VI. 1982 (M.G.); slopes of Monte Saccarello, 1500/1650 m: 14 ♂♂ & 3 ♀♀ 19.VI.1982 (R.S. & M.G.).

1 paratype ♂ (n. 1192 Liguria) and 1 paratype ♀ (n. 1197 Liguria) in the MSNG.

♂ (Holotypus: n. 1194 Liguria; type locality; slopes of Monte Saccarello (Imperia, Italy).

Eye-bridges (Fig. 7,b) of 5 facet rows (6 in the paratypes), separated by about width of 4.5 facets (4.0/5,5 in the paratypes); interocular suture double and U-shaped. Length ratio of the first 3 segments of a palpus (the last one is lacking also in the paratypes): 30-49-45-... Antenna (Fig. 7,c-e) 16-segmented, 0.75 mm long (0.85/0.90 mm in the paratypes); scape cylindrical, 1.40 times longer than wide (1.45/1.65 in the paratypes); pedicel globular; segments 3-4 fused and each with 4-5

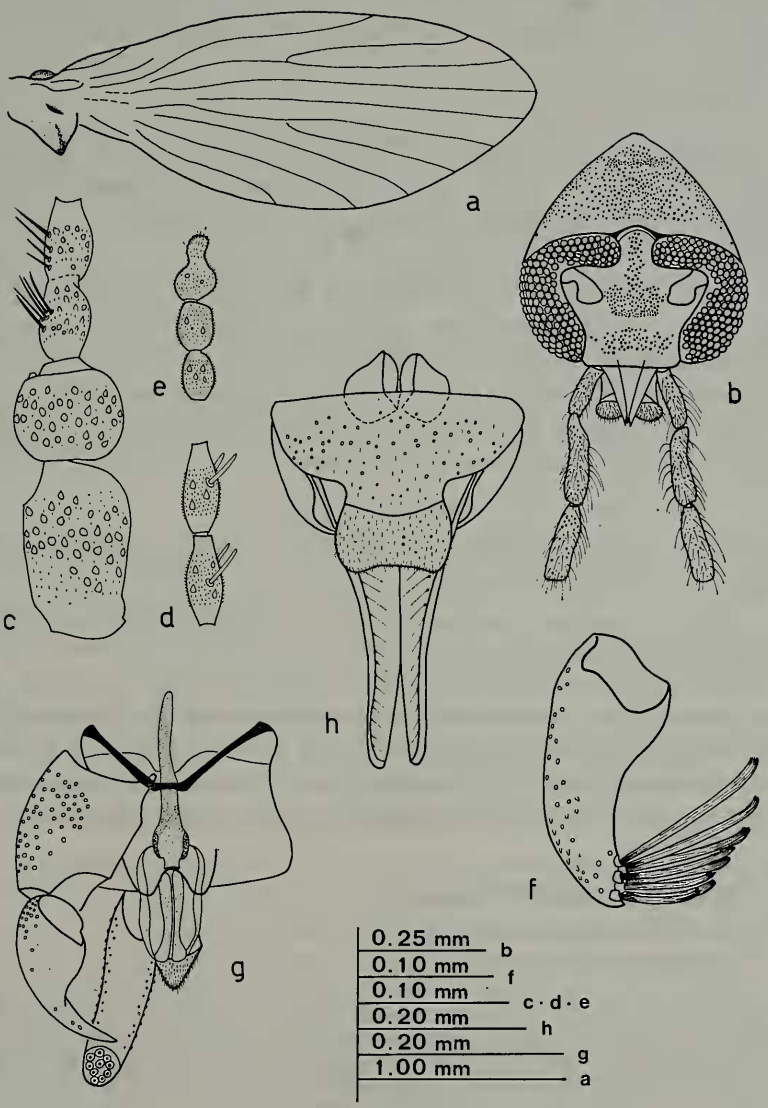

Fig. 7 - *Ulomyia montanoi* n. sp.: 1-g: ♂ (a-b, g: holotypus; c-f: paratypus); h: ♀ (allotypus). a: wing; b: head; c: scape, pedicel, 3 and 4 antennal segments; d: antennal segments 8-9; e: last three antennal segments; f: cercopod, side view; g: male genitalia, dorsal view; h: female genitalia, ventral view.

bristles; segments 5-15 fusiform and each with two simple ascoids; last segment with an apiculus almost as long as the bulb. Length ratio of the segments of an antenna: 42-29-22-23-26-25-25-32-22-21-20-19-13-8-9-10.

There are two simple patagia.

Wing (Fig. 7,a) - Length: 2.55 mm (2.65/2.85 mm in the paratypes); width: 0.95 mm (1.10/1.15 mm in the paratypes); wing index: 2.80 (2.40/2.60 in the paratypes); medial angle: 179° (170°/183° in the paratypes).

Genitalia (Fig. 7,f-g): cercopods at tip each with 10 fringed retinacula (10/11 in the paratypes). Basistyles about 1.20 times longer than wide; dististyles about 1.15 longer than basistyles, with base swollen and beak-like process pointed and slightly curved. Sternal bridge trapezoidal and regular in thickness. Aedeagus as in Fig. 7,g. Subgenital plate about two times widther than long.

♀ (Allotypus: n. 1199 Liguria) (Fig. 7,h)

Similar to male. Wing: 3.25 x 1.30 mm; wing index: 2.50; medial angle: 191°. Genitalia as in Fig. 7,h.

The new species is named after the ornithologist Giacomo Montano, the first collector.

R e m a r k s : this new species is closely related to *U. scurina* (Vaillant), they differ mainly by the following features: shape of the interocular suture, number of retinacula, shape of the sternal bridge and the subgenital plate, shape of the dististyles and the lateral lamellae.

70 - **Ulomyia opaca** (Tonnoir)

(= *Pericoma inflata* Sarà, 1953)

Tonnoir, 1922b, p. 154; Salamanna, 1983b, p. 186

M a t e r i a l e x a m i n e d - L i g . A p . - GE: S. Colombano Certenoli, Torrente Lavagna: 3 ♂♂ & 2 ♀♀ 17.IV.1977 (S.G.); S. Colombano Certenoli, Fosso di Camposasco: 16 ♂♂ & 3 ♀♀ 17.IV.1977 (S.G.); Fontanigorda, Canale, 750/850 m: 8 ♂♂ & 1 ♀ 20.VIII.1978 (Z.S.), 1 ♀ 17.VIII.1980 (G.G. & Z.S.); Lorsica, 350 m: 1 ♂ & 1 ♀ 17.IV.1977 (S.G.); Rapallo, Rio delle Ciazze, 210 m: 2 ♂♂ & 3 ♀♀ 8.IV.1978, 19 ♂♂ & 6 ♀♀ 6/27.V.1978, 9 ♂♂ & 13 ♀♀ 11.VI.1978, 6 ♂♂ & 1 ♀ 1.VII.1978, 6 ♂♂ 9.IX.1978, 1 ♀ 28.X.1978 (R.S.); Rapallo, Torrente Tonnego, 140 m: 7 ♂♂ & 4 ♀♀ 27.V.1978, 12 ♂♂ & 5 ♀♀ 11.VI.1978, 42 ♂♂ & 1 ♀ 8.VII.1978, 5 ♂♂ 2.IX.1978, 4 ♂♂ & 1 ♀ 21.X.1978, 30 ♂♂ & 2 ♀♀ 1/10.IV.1979 (R.S.); Rapallo, Rio Chignero, 100/175 m: 26 ♂♂ & 9 ♀♀ 20/28.III.1978, 3 ♂♂ & 1 ♀ 16.IV.1978, 8 ♂♂ & 7 ♀♀ 12.V.1978, 11 ♂♂ & 3 ♀♀ 2/18.VI.1978, 3 ♂♂ & 2 ♀♀ 26.VIII.1978, 89 ♂♂ & 24 ♀♀ 22/30.IX.1978, 3 ♂♂ & 1 ♀ 7.X.1978, 8 ♂♂ 11/18.III.1979 (R.S.); Rapallo, Torrente Boate, 100 m: 2 ♂♂ 24.VIII.1969 (S.M.); Val Fontanabuona, Torrente Lavagna, Molino di Tasso-

relle, 300 m: 11.VI.1970, 1 ♂ 23.VI.1970 (T.G.); Ognio: 1 ♂ 3.V.1979 (T.G.); Val Fontanabuona, Torrente Lavagna, Ferriere, 150 m: 3 ♂♂ 11.VI.1970 (T.G.); Genova, Castagna di Quarto, 120/175 m: 1 ♀ 11.VI.1976, 1 ♂ & 1 ♀ 10.V.1977 (S.G.), 6 ♂♂ & 2 ♀♀ 5.V.1978 (T.G.); Genova, Prato; 150 m: 3 ♂♂ 6.VI.1976, 2 ♂♂ 17.II.1976 (S.G.), 1 ♂ 21.IX.1977, 1 ♂ & 1 ♀ 3.V.1979, 2 ♂♂ 24.III.1981, 3 ♂♂ 10.X.1982 (T.G.); Giovi, Passo della Bocchetta, 800 m: 2 ♀♀ 27.IV.1975 (B.G. & B.L.); Molini di Fraconalto, Torrente Lemme, 450 m: 14 ♂♂ 14.IX.1975 (S.G.); Arenzano, Val Lerone, Case Freghee, 200 m: 5 ♂♂ & 1 ♀ 8.VIII.1977 (G.G.); Arenzano, Val Lerone: 1 ♂ 7.VII.1977 (P.G.); Arenzano: 2 ♂♂ & 2 ♀♀ 14.VII.1977 (P.G.). Lig. Alps - SV: Erli, Gazzo, (Giovi), 500 m: 2 ♂♂ & 1 ♀ 24.VII.1980 (S.G.). IM: Dolcedo, Bellissimi, 250/300 m: 5 ♂♂ & 1 ♀ 14.VI.1981 (S.G.); Pigna, Colla Langan, 1000 m: 1 ♂ 17.VI.1982 (S.G. & R.S.); Ventimiglia, Villatella, 450 m: 1 ♀ 18.VI.1982 (R.S. & M.G.). CN: Garessio, 700 m: 3 ♂♂ & 1 ♀ 16.VI.1975 (G.G.); 5 ♀♀ 30.V.1976 (B.L. & G.G.); Garessio, Colle S. Bernardo, 950 m: 21 ♂♂ & 1 ♀ 6.VI.1980 (G.G. & R.R.), 6 ♂♂ 24.VII.1980 (S.G.); Pamparato, 700 m: 1 ♂ & 1 ♀ 26.VII.1978 (B.M.); Chiusa Pesio, 570/650 m: 3 ♂♂ & 18 ♀♀ 10.IX.1977, 1 ♂ VIII.1981 (T.G.).

Occurrence: the Italian Alps and Apennines, Sicily; quoted already from Lig. Ap. (GE: S. Stefano d'Aveto, Rapallo) (SARÀ & SALAMANNA, 1967; SALAMANNA, 1974) and from Lig. Alps (CN: Monti di Cuneo, Frabosa, Serro, Villanova Mondovì) (TONNOIR, 1922b; SARÀ & SALAMANNA, 1968).

Remarks: recently SALAMANNA (1983b) has redescribed this species after examining the holotype at the Museo Civico di Storia Naturale di Milano (Italy).

This species, previously considered to belong to genus *Satchelliella*, really belongs in genus *Ulomyia* in spite of the lack of bristles on the first flagellar segments. Indeed its larva (descriptions is in preparation) has all the typical features of larvae of *Ulomyia*, but also some features of male imago (the darkened wing membrane and basal position of the forks) are typical of some groups of this genus.

Consequently the suggested synonymy between the genera *Satchelliella* Vaillant, 1979 = *Pericomina* Enderlein, 1937 (WAGNER, 1982) is no longer valid: *Satchelliella* maintains its generic state and *Pericomina* becomes a synonymy of *Ulomyia* Walker, 1856, because its type species (*Pericoma opaca*) actually belongs to this genus.

Its however to be remarked that the WAGNER's (1982) proposal was correct in principle and is now to be revised in the new light of ensueing knowledge on larval development.

71 - **Ulomyia scurina** (Vaillant)

VAILLANT, 1958, p. 110

Material examined - Lig. Alps - IM: Cima di Pepino (near Colle di Tenda), 2100 m: 1 ♂ & 1 ♀ 1.VIII.1975 (G.G.). CN: Garessio, Colle S. Bernardo,

950 m: 4 ♂♂ & 1 ♀ 6.VI.1980 (G.G. & R.R.); Pamparato, 700 m: 1 ♂ 26.VII.1978 (B.M.).

Occurrence: Spain (Cantabrian Mts and Sierra de Guadarrama); new for the Italian fauna.

Distribution patterns

In the Ligurian Alps the Pericomini (Tab. I and II) are the most representative group (about 69% of the species there collected), while in the Ligurian Apennines this tribe is about 47% only; on the contrary the Psychodini and Telmatoscopini together amount about 31% in the Alps and about 53% in the Apennines.

In our opinion this state is largely due to different ecological requirements of the various species.

Furthermore it is to be reminded that *Psychoda* (the prevailing genus in the Psychodini) counts the largest number of cosmopolitan or widely distributed species; on the contrary, the Pericomini have normally more restricted distributions and a largest number of stenoecious and/or high mountain species: there are no cosmopolitan species, those with wide distributions are rare and endemics are comparatively frequent; the Telmatoscopini stay in the middle: they are either endemics, or species with restricted or even wider distributions; *Clogmia albipunctata*, only, is a cosmopolitan.

The distribution patterns of taxa at the species level may be caracterized as follows:

1 – Cosmopolitan: *Psychoda alternata*, *P. cinerea*, *P. parthenogenetica*, *Clogmia albipunctata*.

2 – Holoarctic: *Psychoda albipennis*, *P. minuta*, *P. pusilla*, *P. satchelli* *P. setigera*, *P. severini*.

3 – Holopalearctic: *Psychoda erminea*.

4 – Euromaghrebian: *Psychoda grisescens*, *Mormia tenebricosa*, *Tonnoiriella pulchra*, *Pericoma exquisita*, *P. modesta*, *P. blandula*.

5 – European: *Clogmia rotschildi*, *Peripsychoda fusca*, *Philosepedon humeralis*, *Feuerborniella obscura*, *Pericoma pseudoexquisita*, *P. trifasciata*, *Berdeniella unispinosa*, *Satchelliella compta*, *S. cubitospinosa*, *S. mutua*, *S. nubila*.

6 – Central and Southern European: *Psychoda gemina*, *Trichopsychoda hirtella*, *Mormia revisenda*, *M. eatoni*, *Clytocerus ocellaris*, *Pericoma calcilega*, *Szaboiella hibernica*, *Saraiella auberti*.

7 – Euroborealpine: *Berdeniella freyi.*

8 – Southern European:

a) Italy and Provence: *Clytocerus saccai*;

b) the Apennines, the W-Alps, the Balkans, the Carpathians: *Mormia apicealba*;

c) the Alps, the Apennines, Sicily: *Ulomyia opaca*;

d) the Alps, the Balkans: *Phillotelmatoscopus acutus*;

e) the Alps, the Massif Central: *Saraiella clastrieri*;

f) the Alps: *Pericoma alticola, Berdeniella helvetica, S. squamigera*;

g) the SW-Alps, the Apennines: *Panimerus ligusticus, Berdeniella dispar, Saraiella diaclasica*;

h) the SW-Alps: *Jungiella calcicola, Pericoma viperina, Berdeniella brauxica, B. glacialis, B. nivalis, Satchelliella jungi, Saraiella onerata*;

i) the Apennines, Bosnia: *Saraiella consigliana*;

j) the N-Apennines: *Ulomyia mirabilis*;

k) the Ligurian Apennines, Sardinia: *Telmatoscopus wagneri*;

l) the W-Alps, the Carpathians: *Saraiella parva*;

m) the Ligurian Alps, the Cantabrian Mountains, Sierra de Guadarrama: *Ulomyia scurina.*

9 – Endemics (as far as known):

a) the Ligurian Apennines: *Psychoda vaillanti, P. villosa, Jungiella troianoi, Pericoma servadeii, Berdeniella bodoni, B. zwicki*;

b) the Ligurian Alps: *Szaboiella modenesii, Berdeniella gardinii, Satchelliella vaillanti, Ulomyia montanoi*;

c) the Ligurian Alps and Apennines: *Psychoda quatei.*

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Table I: List of the species known from the Ligurian Alps and Apennines.

Species		The Alps	The Apennines
PSYCHODINI			
Psychoda	*albipennis*	+	+
»	*alternata*	+	+
»	*cinerea*	+	+
»	*erminea*		+
»	*gemina*	+	+
»	*grisescens*		+
»	*minuta*		+
»	*parthenogenetica*	+	+
»	*pusilla*		+
»	*quatei*	+	+
»	*satchelli*	+	+
»	*setigera*		+
»	*severini*	+	+
»	*vaillanti*		+
»	*villosa*		+
TELMATOSCOPINI			
Clogmia	*albipunctata*		+
»	*rotschildi*		+
Phillotelmatoscopus	*acutus*	+	
Panimerus	*ligusticus*	+	+
Telmatoscopus	*wagneri*		+
Jungiella	*calcicola*	+	
»	*troianoi*		+
Peripsychoda	*fusca*	+	
Philosepedon	*humeralis*	+	+
Feuerborniella	*obscura*		+
Trichopsychoda	*hirtella*	+	+
Mormia	*revisenda*		+
»	*tenebricosa*		+
»	*apicealba*		+
»	*eatoni*		+
PERICOMINI			
Clytocerus	*ocellaris*		+
»	*sacıai*	+	+
Tonnoiriella	*pulchra*	+	+
Pericoma	*alticola*	+	
»	*calcilega*	+	+
»	*exquisita*	+	+
»	*modesta*		+
»	*pseudoexquisita*	+	+
»	*servadeii*		+
»	*trifasciata*	+	+
»	*viperina*	+	
»	*blandula*	+	+
Szaboiella	*hibernica*	+	+
»	*modenesii*	+	

(*continued*)

(*continued*)

Species		The Alps	The Apennines
Berdeniella	*dispar*	+	+
»	*bodoni*		+
»	*brauxica*	+	
»	*freyi*	+	
»	*gardinii*	+	
»	*glacialis*	+	
»	*helvetica*	+	
»	*nivalis*	+	
»	*unispinosa*	+	+
»	*zwicki*		+
Satchelliella	*compta*		+
»	*cubitospinosa*	+	+
»	*jungi*	+	
»	*mutua*	+	+
»	*nubila*	+	+
»	*vaillanti*	+	
Saraiella	*auberti*		+
»	*clastrieri*	+	
»	*consigliana*		+
»	*diaclasica*	+	+
»	*onerata*	+	
»	*parva*	+	
»	*squamigera*	+	
Ulomyia	*mirabilis*		+
»	*montanoi*	+	
»	*opaca*	+	+
»	*scurina*	+	

Table II: Numbers of species within each Tribe of the Subfamily Psychodinae known from the Ligurian Alps and Apennines.

Tribes	N° species	N° new species	N° species new for Italy	N° species from the Alps	N° species from the Alps only	N° species from the Apennines	N° species from the Apennines only	N° species in common
Psychodini	15	1	0	8	0	15	7	8
Telmatoscopini	15	1	4	6	3	12	9	3
Pericomini	41	4	8	32	17	24	9	15
Totals	71	6	12	46	20	51	25	26

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ABSTRACT

71 species of Psychodinae are reported from the Ligurian Alps and Apennines. *Psychoda villosa*, *Jungiella troianoi*, *Szaboiella modenesii*, *Berdeniella bodoni*, *B. gardinii* and *Ulomyia montanoi* are new for science. *Clogmia rotschildi*, *Jungiella calcicola*, *Feuerborniella obscura*, *Mormia eatoni*, *Pericoma calcilega*, *P. viperina*, *Berdeniella nivalis*, *Satchelliela jungi*, *Saraiella diaclasica*, *S. onerata*, *S. parva*, *Ulomyia scurina* are new for Italian fauna.

The new following synonymy is suggested: subgenus *Mormia* Enderlein, 1935 = subgenus *Eomormia* Krek, 1971. *Palpomormia* n. nov. is proposed for subgenus *Paramormia* Krek, 1971, as preoccupied by *Paramormia* Enderlein, 1937. The following species-level synonymy is also proposed: *Panimerus ligusticus* (Sarà & Salamanna, 1967) = *P. gressicus* Vaillant, 1972 together with the new combination: *Telmatoscopus wagneri* (Salamanna, 1983), for *Panimerus wagneri*.

Finally the distribution patterns of the Psychodinae of the Ligurian Alps and Apennines are discussed.

RIASSUNTO

SINOSSI DEGLI PSYCHODINAE DELLE ALPI ED APPENNINI LIGURI (Diptera Psychodidae).

Gli autori riportano dati relativi alle 71 specie della sottofamiglia Psychodinae finora note delle Alpi e degli Appennini Liguri. 12 specie sono nuove per la fauna italiana: *Clogmia rotschildi*, *Jungiella calcicola*, *Feuerborniella obscura*, *Mormia eatoni*, *Pericoma calcilega*, *P. viperina*, *Berdeniella nivalis*, *Satchelliella jungi*, *Saraiella diaclasica*, *S. onerata*, *S. parva*, *Ulomyia scurina*; 6 sono nuove per la scienza: *Psychoda villosa*, *Jungiella troianoi*, *Szaboiella modenesii*, *Berdeniella bodoni*, *B. gardinii* e *Ulomyia montanoi*.

P. villosa si distingue da tutte le altre *Psychoda* poiché possiede i due lobi della piastra subgenitale ricoperti di setole. *J. troianoi*, affine a *J. sybaritana* Salamanna, se ne distingue soprattutto per i genitali esterni; *S. modenesii* si distingue facilmente da *S. binunciolata* e *S. hibernica* per molti caratteri e soprattutto per quelli dei genitali; *B. bodoni*, del gruppo *lucasii*, è affine a *B. zoiai* Salamanna, dalla quale si distingue soprattutto per la forma del IX tergite; *B. gardinii* differisce dalle altre specie del gruppo *manicata* per la forma dei dististili, del ponte sternale, della piastra subgenitale e delle lamelle interne dell'edeago; *U. montanoi*, affine a *U. scurina* (Vaillant), ne differisce soprattutto per la forma della sutura interoculare e per molti caratteri dei genitali esterni.

Secondo le regole dell I.C.Z.N. propongono la seguente sinonimia: sottogenere *Mormia* Enderlein, 1935 = sottogenere *Eomormia* Krek, 1971 e danno un nuovo nome (*Palpomormia* n. novum) al sottogenere *Paramormia* Krek, 1971, poiché questo è nome già utilizzato per il genere *Paramormia* Enderlein, 1937.

Secondo gli autori *Panimerus ligusticus* (Sarà & Salamanna, 1967) = *P. gressicus* Vaillant, 1972 (Syn. n.); inoltre essi trasferiscono *Panimerus wagneri* Salamanna, 1983 al genere *Telmatoscopus* (comb. n.).

Infine riportano i tipi di distribuzione geografica degli Psicodidi rinvenuti nell'area considerata.